The evolution of the British Army's logistical and administrative infrastructure and its influence on GHQ's operational and strategic decision-making on the Western Front, 1914-1918.

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The Evolution of the British Army's Logistical and Administrative Infrastructure and its Influence on GHQ's Operational and Strategic Decision-Making on the Western Front, 1914-1918

by

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Abstract

The BEF that Whitehall committed to France in August 1914 was not prepared for the realities of continental warfare. Nowhere was this more evident than in its lack of comprehensive administrative training. This, combined with the lack of mobilisation of the British economy for war, limited the ability of the Force's commander to make effective operational and strategic decisions. However, four years later the BEF provided the spearhead of the allied forces that drove the Germans to the peace table. In so doing, its new commander had tremendous operational and strategic flexibility. Administrative improvements helped make this possible.

1916 proved to be the crucial year of the war from the perspective of British administration and logistics. By late autumn, the Battle of the Somme led to a near-breakdown of the BEF's transportation system, laboriously cobbled together during the preceding years. Only the arrival of a civilian expert, Sir Eric Geddes, eased the crisis as he proceeded to rationalise and revitalise the BEF's transportation and thus logistical system. The changes Geddes wrought led to great advances in logistic and administrative efficiency during 1917. Geddes' legacy was a superb administrative and logistical infrastructure which underpinned the later advances in operational methodology and strategic flexibility enjoyed by the BEF. Only the termination of hostilities brought an end to this superb administration, and the difficulties the BEF then faced were not ones that could be overcome.

The BEF of 1918 had become a continental army. Its logistic and administrative excellence underpinned the changes that resulted in a superior operational methodology to that of its opponent, and offered the BEF greater strategic flexibility than that opponent. This came about, in very large measure, because of the changes made in the means of its administration, particularly in 1916.

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Abbreviations used in text or footnotes

A Branch	Adjutant General's Branch of the General Staff (occasionally referred to as A)
ADM	Admiralty
AEFE	American Expeditionary Forces in Europe
AG	Adjutant General
AMLO	Assistant Military Landing Officer
AQMG	Assistant Quartermaster General
ASC	Army Service Corps
BAOR	British Army on the Rhine
BEF	British Expeditionary Force
BGGS	Brigadier-General, General Staff (senior corps staff officer)
C-in-C	Commander-in-Chief (generally refers to either of the BEF's commanding officers)
C^3I	Acronym used to refer to Command, Control, Communications and Intelligence
CGS	Chief of the General Staff
CIGS	Chief of the Imperial General Staff
DAA&QMG	Deputy Assistant Adjutant and Quartermaster General
DGT	Director-General of Transportation
G Branch	General Branch of the General Staff
GHQ	General Headquarters (BEF)
GOC	General Officer Commanding
GOC, L of C Area	General Officer Commanding Line of Communications Area
GQG	Grand Quartier General, French GHQ
IEF	Indian Expeditionary Force
IGC	Inspector-General of Communications
IWM	Imperial War Museum
LHCMA	Liddell Hart Centre for Military Archives

MGGS	Major-General, General Staff (senior Army staff officer)
MGO	Master-General of the Ordnance
MRCUW	Modern Records Centre, University of Warwick
psc	Passed Staff College
Q Branch	Quartermaster General's Branch of the General Staff (occasionally referred to as G)
QMG	Quartermaster General
RE	Royal Engineers
RHA	Royal Horse Artillery
SE&C Railway	South East and Chatham Railway Company
WO	War Office

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Introduction

Since its termination more than seven decades ago, the Great War has resulted in a large volume of literature of varied quality and objectivity. In general, laymen view the war today as four years of incessant slaughter resulting from incompetent generalship. Such a view can be found in studies of the British Expeditionary Force (BEF). This view includes works by Basil Liddell Hart, Alan Clark, Leon Wolff and others. As a result, many authors tend to stifle the objective and wide-ranging study of that war, because they look no further than 'generalship,' using that as the basis for their explanation of the terrible conditions of trench warfare. As a result, no one has published any work considering the impact of logistics and administration on the BEF since the volume of the Official History on this topic reached readers in 1937. Moreover, a more recent focus by a number of authors, such as Tim Travers, Robin Prior, Trevor Wilson, Shelford Bidwell, Dominick Graham and most recently Paddy Griffith, on tactical, operational or strategic theories and their evolution has challenged this view of trench warfare but has not corrected the gap in our knowledge of administration. This is a significant oversight, for the BEF's evolution from the small, professional army of 1914 into the large and effective continental army of 1918 could not have occurred without superb leadership in logistics and administration. By evaluating the evolution of the logistic and administrative systems from pre-war training, through the 'fuzzy' period between the Armistice of 11 November 1918 and the Peace of 28 June 1919, this study demonstrates that administrative developments had a significant impact upon British operational and strategic decision-making in France.

The advances in British operational and tactical methodology and strategic decision-making that are evident in 1917, and particularly 1918, could not occur until the BEF had created and perfected its logistic and administrative infrastructure because supply shortages hamstrung efforts to innovate. The operational style of attack that

eventually emerged in the BEF, that of the highly effective limited objective set-piece attack, allowed commanders to use artillery in enormous, yet well controlled quantities to help their troops get to their objectives.[1] The supply system of 1916 could not have supported the British offensives of 1917 and 1918 and, had it been kept in unchanged form, it is unlikely that the BEF, through the work of its many innovators, could have solved the problem of how to advance in trench warfare.[2] The fact that the BEF had found, by 1918, the correct solution to trench warfare is generally ignored by the major schools of thought on the war, both of which trace their roots to the 1930s.

For the first decade after the war, Field-Marshal Sir Douglas Haig and other field commanders received considerable praise because they had won. Such praise proved to be short-lived. Haig's most notable and significant early proponent (if a moderate one) was, surprisingly, Captain Sir Basil Liddell Hart who wrote *Reputations: Ten Years After* in 1928. In *Reputations*, Liddell Hart provided a qualified positive view of Haig, stating that, 'there had hardly been a finer defensive general' - not a glowing tribute, but a clear indication that Liddell Hart had at least a modicum of respect for Haig. Liddell Hart went on, however, to state that as an

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1. For the purpose of this study, a few terms need clarification. First, strategy and strategic decision-making refer to the ability of the BEF's commander to affect the bigger picture in northwest France and Belgium. For example, the decision to counter-attack in the Amiens area in August 1918 represents a strategic choice, as other areas might have been chosen. Secondly, tactics refers to the basic level of warfare at which officers and men react in a timely fashion to battlefield circumstance. For example, the reduction of a pill-box by a platoon is tactics. Finally, operations and operational methodology occupy the area between strategy and tactics. In the Great War, operations refers to the planning and preparation of battle by commanders who cannot provide timely decisions once that battle is under way. For example, the planning of the above mentioned Amiens attack by Fourth Army, and the various corps and divisions involved occurs at the operational level of warfare.

2. Although many choose to overlook those who did not work with tanks, the BEF had a significant number of innovators who, during the Great War, advanced battlefield methodology substantially. The efforts of George Lindsay, Frederick (Ivor) Maxse, John Monash, Arthur Currie and many others who perfected the tactical methods of 1918 and the operational system of the set-piece attack are often overlooked because, while such methods proved highly successful, they lacked the glamour of manoeuvre warfare.

offensive general, 'none, perhaps have ever made worse errors.'[3] Liddell Hart stereotyped Haig as a typically faithful and hard-working Scotsman who proved unable to adapt to the new technology of warfare, a theme which has been followed enthusiastically by Haig's critics since then. Shortly afterwards, Liddell Hart became one of Haig's most acerbic critics and *Reputations* remained one of the last positive views of Haig outside of biographies until the 1960s.

The release of *Reputations* coincided with the beginning of a period which saw the publication of a number of memoirs, books, and war poems providing powerful and well written, though not particularly objective or accurate, critiques of commanders on the Western Front. Thompson's *Lions led by Donkeys* (1927), Blunden's *Undertones of War* (1928), Graves's *Goodbye to All That* (1929), Manning's *Her Privates We* (1930), and Sassoon's *Memoirs of a Fox Hunting Man* (1928) and *Memoirs of an Infantry Officer* (1930) all stressed the horrible conditions faced by the front-line soldier and criticised commanders for their bloody-mindedness and distance from those conditions. Such an approach is easily understood, however, since these authors had experienced first-hand the very conditions about which they wrote. Such works also found a public highly receptive to anti-war messages and strongly disinclined to view war in any sort of positive light. Only in 1936, for example, did public opinion in Britain begin to accept that another war in Europe might be unavoidable; until then the possibility had been unthinkable.[4] The receptiveness of the public to these eminently readable works combined with the moving war poetry of McRae, Owens, Binyon and others to further a mind-set which viewed the Great War with revulsion and laid the ground-work for the 'internal factor' or 'mud and blood'

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3. B H Liddell Hart, *Reputations: Ten Years After* (London: J Murray, 1928), 147 and 103.

4. For a general overview of British public opinion (and politics) in the inter-war period, see R K Webb, *Modern England: From the Eighteenth Century to the Present, Second Edition* (New York: Harper Collins, 1980), chapter 12.

view of the war.[5]

The internal school of thought holds that the slaughter of British soldiers on the Western Front could be laid directly at the feet of the BEF's commanders. British generals should be recognised as the incompetent, mistake-prone and callous Victorians they epitomise, with nothing to rectify their colossal errors - or so this school maintains. Liddell Hart's *The Real War* (1930) strengthened this view significantly. In it he clearly showed increasing hostility towards the performance of the generals during the war, though his comments did not reach the scathing levels of later authors.[6] Prime Minister David Lloyd George's six volume *War Memoirs*, published in 1933 and greatly influenced by Liddell Hart, also proved a formative work for this school of thought. As with most adherents of this school, Lloyd George used loaded phrasing when writing about the High Command, referring to the 'slaughter of Passchendaele' as, 'that bloody battle' which, 'with the Somme and Verdun, will always rank as the most gigantic, tenacious, grim, futile and bloody fights ever waged in the history of war.'[7] Lloyd George provided a vivid though probably imagined description of the mud of the battle and what he saw as the ignorance and vanity of GHQ. He also condemned the generals' 'one-way minds' and their policy of attrition - 'the game of the poor player' (a distinctive Liddell Hart-ism). In well over one hundred pages he argued that Passchendaele had been one of the war's greatest disasters and claimed that

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5. Tim Travers, *The Killing Ground: The British Army, the Western Front and the Emergence of Modern Warfare 1900-1918* (London: Allen & Unwin, 1987), xvii.

6. Cf Liddell Hart's remarkably mild discussion of the Somme (227-48), his veritable praise of Plumer's performance at Messines (330-6), and critique of Passchendaele (337-43) in B H Liddell Hart, *The Real War 1914-1918* (Boston: Little Brown and Company, 1930).

7. David Lloyd George, *War Memoirs* (Boston: Little Brown & Company, 1933-37, published in six volumes), volume 3, 1375, ibid., and volume 4, 2110.

'no soldier of any intelligence now defends this senseless campaign.'[8] It is interesting, given the time spent on Passchendaele, that the battles of the last hundred days of the war in which the Allies drove Germany to the Armistice are given at best a cursory mention in less than twenty-seven pages; and in those pages Haig hardly seems to rate mention.[9] This is typical of those works which seek to pillory 'the generals,' because the generalship exhibited by the BEF's commanders comes off in a remarkably good light during the final stages of the war. The internal school set the tone for the popular view of the war which remains strong today.

Post-Second World War works belonging to the mud and blood school are common and, in general, have loosely followed Lloyd George's lead in ignoring the battles of the Summer of 1918. Leon Wolff's *In Flanders Fields: The 1917 Campaign* (1958) and Alan Clark's *The Donkeys* (1961) fall into this school; as do films such as 'Oh! What a Lovely War' (1969), 'Gallipoli' (1981), and 'Anzacs: The War Down Under' (1987). Wolff's well written work studies 1917 and concentrates on Passchendaele, though Messines and Arras receive some attention. Cambrai he dismisses in one paragraph.[10] Wolff's work might have been better subtitled 'The Passchendaele Campaign.' Clark provides a critical account of the battles of Neuve Chapelle and Loos, but goes no further - certainly an egregious error for a book based on the supposed comment of a German general that British troops were lions led by

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8. Lloyd George, *War Memoirs*, volume 4, 2208-11, volume 3, 1401, volume 3, 1377-8, and volume 4, 2240.

9. Lloyd George, *War Memoirs*, volume 4, 3125-52. John Terraine, *To Win A War* (London: Sidgewick & Jackson, 1978), 13-14 accuses Lloyd George of removing credit for the last hundred days from Haig, and from his army by association.

10. Leon Wolff, *In Flanders Fields: The 1917 Campaign* (New York: The Viking Press, 1959), 254-5.

donkeys.[11] 'Oh! What a Lovely War' is a merciless though humorous attack on the generals. 'Gallipoli,' while not dealing with the Western Front, falls into this school because the campaign in the Dardanelles saw its share of futility and incompetent generalship; it also produced a number of generals who later served in France. 'Anzacs' is also critical, Haig and Kiggell coming off in a particularly unflattering light but offers a somewhat more balanced portrayal of the higher commands than other works, though it is little more than a propagandised representation of the myth of the Australian super-soldier.

Works which concentrate on life in the trenches, or which examine battle at the lowest levels of command bolster this school of thought by illustrating that the front had, indeed, been a miserable place to spend up to four years of one's life. Denis Winter's *Death's Men: Soldiers of the Great War* (1978) is one of the best of this style of writing. Although he covers much of the bigger picture, his focus on the life of the individual infantryman makes for an unflattering portrait of the higher commands. Also included in this group are books such as John Ellis's *Eye Deep in Hell: Life in the Trenches, 1914-1918* (1976), Martin Middlebrook's *The First Day on the Somme* (1971) and Lyn Macdonald's *Somme* (1983) and *They Called it Passchendaele* (1978). These latter works are well worth reading, but their 'eye-level' view must be taken into account when the bigger picture is discussed.

While a number of the works which form the core of the mud and blood school of thought are, indeed, well-written and informative, the idea that the entire blame for the war's casualties could be placed on the generals is patently too simplistic. The works of this school, particularly 'front line' views, do provide a useful perspective for the modern author who will have had no experience of that war and may lack

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11. Clark asserted that the comment 'lions led by donkeys' had been made by Colonel (later Major-General) Max Hoffman to Erich Ludendorff. John Terraine, *The Smoke and the Fire: Myths and Anti-Myths of War, 1861-1945* (London: Sidgewick and Jackson, 1980), 170-1 suggests that this comment, in fact, was made much earlier and that it referred to the French Army in 1870.

experience of military service. Painting the BEF's commanders as uniformly incompetent is both unfair and greatly exaggerates the case. Although the Great War and the BEF did provide a number of examples of seemingly extreme and callous incompetence, as the internal school holds, the BEF also produced some fine generals. For example, Arthur Currie (Canadian Corps), Ivor Maxse (XVIII Corps) and John Monash (Australian Corps) are three of the finest Corps Commanders that the war produced on any front. To these three might be added Claude Jacob, Julian Byng (while he commanded the Canadian Corps), and two very solid army commanders - Henry Horne and Herbert Plumer. Maxse, as a divisional commander on the Somme, trained and prepared his division and their plans so well that his formation achieved practically all of their objectives on 1 July 1916.[12] Currie and Monash both saw significant successes in 1918, as did their army commanders (Horne and Henry Rawlinson). Unfortunately, such officers attract little attention in the historiography of the war. This is because the main schools of thought are too busy indicting or exonerating the High Command (General Headquarters - GHQ). The internal school of thought does not accurately reflect the reasons for the war's difficulties, but its works cannot be disregarded. Rather, they must be treated with care and some scepticism - as must the works of the school which opposed them.

Between 1922 and 1948 Brigadier-General Sir James Edmonds, the chief British official historian, presided over the publication of the 14 volume official history, *Military Operations: France and Belgium*, and laid the foundation for a second powerful school of thought on the war - later termed the 'external factor' school.[13] Edmonds

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12. James E Edmonds, *Military Operations, France and Belgium, 1916, Volume I* (London: His Majesty's Stationery Office, 1938), 338-42. Hereafter, this series of works will be referred to as *BOH* with the addition of year and volume numbers, *BOH(1916, 1)* for example. The series included 14 volumes that covered operations on the Western Front as well as volumes on other fronts and topics.

13. Travers, *The Killing Ground*, xviii.

blamed the difficulties of the Western Front on inexperienced staff officers, the inherent technical difficulties that arose with the advent of new technologies, the fighting ability of the Germans, and political interference. He defended the generals, his former colleagues and in many cases friends, by looking elsewhere for the causes of the bloodshed.[14] While influential during the publication of the Official History, Edmonds's school of thought waned in influence after the Second World War, due in large measure to the works of Wolff and Clark, though it still retains proponents.

The most prominent modern proponent of the external factor school is John Terraine. Terraine has, for many years, carried on a prolific and nearly single-handed crusade to resurrect the reputations of generals who fought in the Great War - Haig in particular. In so doing, Terraine has revitalized the external school and the debate. He has done this by distancing his works from the conditions of the trenches, and attempting to highlight the successes of the BEF, particularly during the last hundred days of the war, while trying hard to find positive things to say about prior years. Terraine asserts, for example, that the Battle of the Somme nearly succeeded, and that Haig actually came close to achieving his goal. He argues in *Douglas Haig: the Educated Soldier* (1963) that the officers involved in the Somme from GHQ downwards should be held responsible for a tragic mistake, but that mitigating factors must be considered. He states, for example, that no one was prepared for the 'hard business of modern Continental war,' referring, of course, to the high casualty figures.[15] *Douglas Haig: the Educated Soldier* is a sound and sympathetic defence of Haig spurred by Leon Wolff and Alan Clark. Further works by Terraine included *Mons: the Retreat to Victory* (1972), *The Road to Passchendaele: the Flanders Offensive of 1917: a Study in Inevitability* (1977), *To Win a War: 1918, the Year of*

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14. Ibid., xviii.

15. John Terraine, *Ordeal of Victory* (Philadelphia: Lippincott, 1963), 201, 204 and 206. In the United Kingdom, the book was published as *Douglas Haig: the Educated Soldier* (London 1963).

Victory (1978), *The Smoke and the Fire: Myths and Anti-Myths of War, 1861-1945* (1980) and *White Heat: the New.Warfare, 1914-1918* (1982) which all argue that external factors caused the BEF's problems. One of Terraine's primary contributions to the debate has been to rightly emphasize that external factors did play a role in the British difficulties of the war. While he tends to push this argument too far since the BEF undoubtedly suffered from its share of internal problems, Terraine provides a sound contribution to the debate. *To Win A War* is Terraine's most telling 'shot across the bows' of the internal school, because he manages to largely steer clear of the polemic of earlier efforts in both schools, while emphasising a period of the war that the internal school avoids.

The emphasis on Haig has tended to obscure the other commanders, even Sir John French, though biographies do exist for many of the BEF's senior officers. Biographers have favoured the external school, although exceptions such as Denis Winter's *Haig's Command* (1991) certainly exist. Most of the army commanders (Byng, Birdwood, Gough, Rawlinson, Allenby and Plumer) have been the subject of biographies, the most recent being the superb *Command on the Western Front: The Military Career of Sir Henry Rawlinson, 1914-1918* (1992) by Robin Prior and Trevor Wilson. Corps Commanders have received less attention, as biographers have tended to focus on the High Command. The Corps Commanders who have been most scrutinised by biographers are Arthur Currie and John Monash of the Canadian and Australian Corps' respectively. This scrutiny has been driven primarily by Canadian and Australian authors. As for the senior administrative officers, even less has been done. William Robertson left two works, *Soldiers and Statesmen* (1926) and *From Private to Field Marshal* (1921), but there is little that looks at any of the other senior administrative officers of the BEF. Haig, as the focus of the internal school's argument, has dominated the biography.

Duff Cooper's *Haig* (1935) placed the blame for the Somme on the French, arguing that the French High Command had decided where and when that battle would

be fought, while Haig preferred another time and place.[16] John Charteris's *Field-Marshal Earl Haig* (1929) invoked Napoleon, Stonewall Jackson and Robert E Lee on Haig's behalf, arguing that all three of those 'great' commanders had been defeated, while Haig had won his war - a sound point. Charteris also felt that, if one only considered the Aisne, First Ypres, Neuve Chapelle and Loos, that these battles 'would have justified comparison to Stonewall Jackson.'[17] Unfortunately for the external view, internal school proponents rightly use other examples in their criticism. Charteris's work provided Terraine with the lead for his argument in *Douglas Haig: The Educated Soldier* that Haig, like Ulysses S Grant, felt the destruction of his enemy's army to be his primary objective.[18] This line of reasoning compared Haig to Grant, a successful commander, in that Grant fought the costly Wilderness Campaign and a number of other 'blood-baths' but persevered and, thus, defeated the Confederate States of America - an attempt to make the Somme and Passchendaele into Haig's campaigns in the wilderness.

As with the mud and blood view of the war, the external factor view is flawed. While there are, indeed, some similarities between the campaigns of the American Civil War and the Great War, such as long casualty lists and trenches, the desire to clear the reputation of Haig has clouded comparative arguments. In particular, Grant always fought with the Union's tremendous manpower and industrial advantages behind him -

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16. Duff Cooper, *Haig* (London: Faber & Faber, 1935), 436. Published in two volumes.

17. John Charteris, *Field-Marshal Earl Haig* (New York: Scribner's Sons, 1929), 377 and 382.

18. Terraine, *Ordeal*, 233.

in his attrition campaign he held a decisive upper hand.[19] In Imperial Germany and its allies, Haig and his allied commanders faced opponents much more evenly matched than Grant had faced in the Confederate States of America.[20] Thus, unlike Grant, Haig could not afford the luxury of sheer bloodymindedness. While the naval blockade of Germany can be viewed as the rough equivalent to Winfield Scott's 'Anaconda,' the grand strategy that strangled the Confederacy, the battlefield strategies are a much poorer tool for comparison. Finally, Charteris's arguments are clearly misdirected because he, as Alan Clark later did, avoided the important battles of 1916-18 in his argument. Without considering these, no valid or balanced conclusions as to relative ability, or lack thereof, can be drawn - it would be akin to a historian of the Second World War drawing conclusions about William Slim (ultimately Field Marshal and one of the outstanding commanders of his war) based solely on his early set-backs in Burma.

Recent scholarship has begun to correct the flaws of both schools, and provides a more balanced view that does not shy from apportioning blame where blame is due, or giving praise when merited. The influence exerted by the competing schools of thought, particularly the mud and blood school, hindered scholarship on the war until

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19. Cf J G Randall and David Donald, *The Civil War and Reconstruction* (Boston: Heath, 1961 edition), 190-1. Randall and Donald offer a clear illustration of the Union's massive superiority. The manpower advantage was better than 2:1; 3.5:1 when considering only the white population of the South. In industry, the advantage was 6:1 in the number of industrial establishments, and 12:1 in manpower employed in those establishments. When the North's railway advantage (over seventy percent of the 31,256 miles of track available) and financial leverage (most Southern banks were based in New York) are also considered, it is clear that the Confederacy was a largely agrarian society in competition with a larger, more modern, and far more industrialised society. By the time that Grant took command of the Union armies, the outcome of the war could not be doubted.

20. Cf Paul Kennedy, *The Rise and Fall of the Great Powers: Economic Change and Military Conflict from 1500 to 2000* (New York: Vintage Books, 1989 paperback edition), 256-74 passim. Professor Kennedy illustrates that the Central Powers had the advantage of internal lines of communication that roughly balanced the Triple Entente's industrial advantage - some 1.5:1 in industrial potential (258). Not until the United States entered the war did the western powers gain a decisive industrial advantage of roughly 2.7:1, even after Russia's surrender (271).

the publication of Shelford Bidwell and Dominick Graham's *Fire-Power: British Army Weapons and Theories of War 1904-1945* in 1982. They argue that it was old ideas and new weapons, combined with a lack of inter-arm (artillery and infantry) cooperation and the lack of a doctrine of warfare that caused the problems for the BEF in Flanders.[21] They are, therefore, providing a middle-of-the-road approach, since new weapons systems are clearly external, but the lack of a means to integrate new weapons systems with theories of battle is clearly internal. Since 1982 we have begun to see much more balanced views of the war, and better studies of the men who ran it. For example, Robin Prior and Trevor Wilson have recently published *Command on the Western Front: The Military Career of Sir Henry Rawlinson, 1914-1918* (1992), a penetrating and even-handed view of a commander learning and then re-learning how to fight on the Western Front. Tim Travers's *The Killing Ground: The British Army, the Western Front and the Emergence of Modern Warfare 1900-1918* (1987) provided an in-depth and extensive study, as well as an even-handed and harsh critique, of Sir Douglas Haig and his style of command. Travers paints Haig as a commander trapped in a nineteenth century 'paradigm' of warfare from which he could not escape. This explains the way he fought the war, his dominance of subordinates, and his insistent desire to get the cavalry through holes in the German lines. Both *The Killing Ground* and *Command on the Western Front* comprehensively demolish Terraine's argument that Haig nearly 'pulled off' the Somme. It is patently clear from these works that Haig aimed at a tremendous break-through that simply could not be achieved in 1916, and that his insistence on that certainly helped inflate the casualties by confusing the issue with the commanders actually planning the attacks. The balance point, however, is that neither work portrays Haig as being either a complete idiot or inherently incompetent. Rather, they suggest that although he tried to come up with solutions, his dominating,

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21. Shelford Bidwell and Dominick Graham, *Fire-Power: British Army Weapons and Theories of War 1904-1945* (London: George Allen & Unwin, 1982), 1-3.

Victorian personality and preconceived ideas learned from years of practical experience prevented their being fully applied to the problem at hand. Although some might suggest that this is indicative of inherent incompetence that would be to suggest that Britain created its empire through incompetence. Rather, the new school's authors have provided valuable studies which offer well considered reasons for the difficulty of the western front rather than simply asserting that incompetence was the rule. Indeed, the very idea that Britain, France and Germany (as well as Austria-Hungary and Russia) all managed to simultaneously produce a generation of complete incompetents at the highest levels of command is patently ludicrous. The fact that some might have been less than able cannot be denied, but clearly something else happened to cause the trenches. This is the thrust of the new school - a synthesis of older ideas with a more balanced approach to the problem by authors unencumbered by the emotional baggage of having lived through or grown up in the shadow of the Great War. In spite of this new scholarship, the focus remains, from a British perspective, firmly on Haig, his operational staff, and a somewhat inaccurate perception of the BEF's tactical skill.

From a tactical and operational level, there are two general views of the BEF. They are, briefly, the Teutonophile view that seems to be largely prevalent in the United States, and a more recent Anglophile view that remains controversial. The former view traces its roots to G C Wynne's *If Germany Attacks: the Battle in Depth in the West* (1940) which tried to project the coming Battle of France through a study of German tactics in the Great War. This work eventually led to Timothy Lupfer's *The Dynamics of Doctrine: The Changes in German Tactical Doctrine During the First World War* (1981) which illustrated the corporate effort behind the changes in German doctrine in the Great War. Lupfer's work overstated the effectiveness of German tactics both offensive and defensive, and, by implication, denigrated British efforts, and has found great influence in America. Further, the obsession with manoeuvre warfare, evident in such works as William Lind's *Manoeuvre Warfare Handbook* (1985), has led many authors to denigrate the BEF's efforts. More recent works, such as Bruce

Gudmundsson's *Stormtroop Tactics* (1989) and Robert Asprey's *The German High Command at War: Hindenburg and Ludendorff Conduct World War I* (1991) are generally more balanced and even critical of the German developments. Indeed, they more rightly belong in the more modern school.

Since Bidwell and Graham's *Fire-Power* the study of British innovation has grown. Outside of the works of the 'new' school previously mentioned, three recent works have examined British tactics, and gone a long way towards showing that the BEF did innovate, and that they proved effective in so doing. William Rawling's *Surviving Trench Warfare: Technology and the Canadian Corps, 1914-1918* (1992) is a solid analysis of the changes in Canadian tactical methodology during the War. The fact that Rawling focuses on an elite formation does not, in any way, lessen the impact of his findings. He provides as valid a study of the BEF's approach to trench warfare as the Teutonophile group's devotion to the study of stormtroops is that of the German Army. Tim Travers's *How the War Was Won* (1993) is a controversial look at the development of tank warfare in the BEF. Although he has somewhat overstated their significance, Travers points out the importance of the tank in British tactical methodology in 1918. Most recently, Paddy Griffith has produced *Battle Tactics of the Western Front: the British Army's Art of Attack* (1994). Griffith's work is of value because he gets away from the study of the Dominion troops and looks at the British part of the BEF. He shows that the BEF, and not just its elite formations, had progressed a very long way in their battle tactics and that they are worthy of respect. In some areas, particularly his treatment of stormtroop tactics, which he tries to claim for the BEF, he has gone too far, but on the whole, his work falls into the 'new' school and is of considerable value. Indeed, it is refreshing to see an approach that gets away from the study of Dominion troops, for whom excellence is easily proven, while simultaneously challenging those who laud the German efforts to provide studies of German tactics that do not focus solely on their elites.

In all the scholarship on the BEF, there is a dearth of information on GHQ,

administration, and logistics. Indeed, the lack of works on the latter two is symptomatic of literature on the Great War in general. Frank Fox's *GHQ* (1920), written under the pseudonym GSO (General Staff Officer), is the only study of that institution, and it suffers from a lack of objectivity caused, in large measure, by the author's experiences, his proximity to the subject and the recent nature of the victory. John Charteris's *At GHQ* (1931) also suffers this problem. Only one study solely addresses the question of logistics or administration. A M Henniker's volume of the Official History, *Transportation on the Western Front, 1914-1918* (1937), is the only volume dealing with the subject. As all of these studies predate the Second World War, it is evident that this area requires attention.

Logistic problems in this period of warfare, and, indeed, warfare in general, have received short shrift.[22] One of the first was George Thorpe's *Pure Logistics, The Science of War Preparation* (1917) which primarily dealt with logistic theory and was designed to get the United States military to think about the problem as they got involved in the Great War. Martin van Creveld's *Supplying War: Logistics from Wallenstein to Patton* (1977) looks briefly at the failure of the Schlieffen Plan in 1914, then jumps forward to the Second World War. A similar problem exists in Julian Thompson's *Lifeblood of War: Logistics in Armed Conflict* (1991) which also looks briefly at the Schlieffen Plan and skims over the enormous changes to British logistic services between 1914 and 1918 by, in effect, saying that logistic problems meant the front remained static, stating:

> It was the enormous logistic problem, and the lack of radios to command large bodies of men, that gave the First World War on the Western Front its ponderous look, until Haig's great offensive from July to November 1918. It was not, as many authors have maintained, the stupidity of the generals on both sides.[23]

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22. It seems certain that the body literature on any single well-known commander, such as Montgomery or Rommel greatly exceeds the sum of that which deals with military logistics.

23. Julian Thompson, *The Lifeblood of War: Logistics in Armed Conflict* (London: Brassey's, 1991), 44.

This accurate observation needs far more attention than he gives it, for the more mobile front of 1918 came directly from a combination of changes made during 1915-17. One of those changes came in the area of logistics, and this change was a necessary factor for both the creation and maintenance of the continuous mobile fronts of 1918 and the next war.

As a result of the problems in the historiography, GHQ, the institution, is unfairly bound up in the controversy which surrounds Haig. GHQ was far more than simply Haig's headquarters. As the administrative centre of the BEF, GHQ's non-operations staff officers exerted a tremendous influence on Haig's force, but they catch the by-blows of the larger controversy, being indiscriminately labelled as callous 'red-tabs' (the distinctive mark of a staff officer's uniform) who suffered the same flaws as their leaders. Though the BEF certainly had its share of callous 'red-tabs,' enough to create the stigma at any rate, this pejorative should perhaps be applied to the operations staff in general and should not be applied without good cause to the thousands of officers and tens of thousands of 'other ranks' who laboured to supply the BEF both at GHQ and on the lines of communication.

At present, GHQ can be viewed in three ways. Subscribers to the mud and blood school merely treat GHQ as an extension of Haig's leadership: a headquarters where incompetent staff officers (red-tabs) served under the direction of incompetent leadership. Hence, an unflattering view of GHQ emerges; one where GHQ is viewed as a uniformly incompetent institution. This is the dominant view. A second view could be loosely termed the external view. Here, one would look at GHQ in the fashion of Frank Fox's *GHQ*, or W N Nicholson's *Behind the Lines* (1939) both of whom give flattering views of GHQ as an institution where only the very best and

hardest working staff officers survived.[24] This GHQ would be a model for any who are looking for efficiency. The final view does not consider GHQ at all. This is, in fact, the common underlying or possibly subconscious approach of both major schools, though they take opposite sides; GHQ is grouped with Haig and the two are used interchangeably, for good or ill.

It is hard to give credence to the mud and blood view of GHQ. To start with, had GHQ been as inefficient as claimed, the BEF as a whole would have surely suffered tremendous deprivation in France. There would have been many stories of units starving *en masse* in the trenches, of animals dying of malnutrition in very large numbers, as had occurred in the Boer War, and of the perennial shortness of all that the BEF required to wage war.[25] This, outside of the shell crisis in 1915, did not occur. Therefore, one can only conclude that some elements of GHQ functioned well. However, the apocryphal comment attributed to Sir Launcelot Kiggell where he is believed to have blurted out 'my god, did we really send men to fight in that?' after viewing the mud in the rear areas of the Passchendaele Salient would indicate areas of gross inefficiency at GHQ - generally in operations - and also suggests that elements of

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24. GSO (Frank Fox), *GHQ: Montreuil-sur-mer* (London: Philip Alan & Co., 1920), passim, and W N Nicholson, *Behind the Lines: An Account of Administrative Staffwork in the British Army 1914-1918* (London: The Strong Oak Press Limited with Tom Donovan Publishing Ltd, nd; First Published by Jonathan Cape Limited, 1939). See 297-318 of the latter work for a somewhat mixed view of the quality of staff officers at GHQ.

25. John Keegan, *A History of Warfare* (New York: Vintage Books, 1994 edition; first published 1993), 187-8 states that the British Army lost 347,000 out of 518,000 horses that took part in the Boer War in an area where the country provided good grazing. Of this total, only two percent died in battle, the rest succumbing to malnutrition, disease and overwork. In contrast, War Office, *Statistics of the Military Effort of the British Empire During the Great War, 1914-1920* (London: HMSO, 1922), 397 gives the Boer War figures as 7.8 percent per month, while Great War figures (879) average 1.84 percent per month with 1917 being the worst year at 2.38 percent. Hereafter this work will be cited as *Statistics*. Furthermore, WO 106/388A, *History of the Organisation and Development of the Army Veterinary Service with the British Expeditionary Force, August 1914 to April 1919*, 12, indicates that 73 percent of animals admitted to hospitals were cured. All documents referenced by the initials WO, ADM, Cab, or RAIL are from the Public Records Office (PRO), Kew, London.

GHQ's staff were indeed removed from reality.[26] Fox and Nicholson provide useful accounts, but they make GHQ seem too good to be true. Not all staff officers could be the kind of superb workers that they portray. So, neither view is adequate.

A working model of GHQ might show a headquarters' staff that feared Haig's displeasure, as suggested by Tim Travers's *The Killing Ground*, and there seems little doubt that many senior staff and command officers feared Haig a great deal.[27] This model assumes that the impact of fear on the institution would have been mitigated by primarily affecting the operations side of the headquarters. It assumes that G branch (and its intelligence sub-branch) were most seriously handicapped by the fear of Haig.[28] Finally, it assumes that Q and A Branches functioned efficiently in spite of the handicaps in G branch, because these two administrative branches were less tangibly linked to operational success than G Branch and intelligence. In addition, as will be shown, the *Field Service Regulations* of 1912 and 1914 actively discouraged command officers from meddling in administrative affairs thus having an insulating effect on no-operations staff officers, and also creating the potential of a tiered staff where each Branch worked independently of the others. This model, of course, is an oversimplification. For all of the glamour of G Branch, Q and A Branches were *the* most important part of GHQ. Without their logistic and administrative work, the BEF would go nowhere, run short of manpower and supplies and likely starve. Yet, the question of how to get equipment to the troops was much less contentious than the problems faced by G branch.

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26. Liddell Hart, *Real War*, 343; Wolff, *Flanders Fields*, 252-3.

27. Travers, *The Killing Ground*, especially 108-18.

28. The British system divided their general staff officers into three categories depending on the type of work they did. Officers dealing with the planning of operations formed G (General) branch, those dealing with manpower questions (replacements, casualties) or military justice formed A Branch and Q Branch dealt mainly with the acquisition and delivery of all supplies and the maintenance of the means to move such supplies.

In Haig, as Tim Travers has ably pointed out, the BEF was commanded by an officer trapped in a nineteenth century view of battle. He was searching for the gap through which the cavalry could put in the decisive attack, exploiting success and routing the German Armies from the field.[29] This would not, did not, and could not occur. The tasks faced by the quartermasters of the BEF, however, remained practically the same as those faced by quartermasters throughout history. They have always grappled with the problem of how to feed and equip troops in the field. The increase in scale of effort over previous wars made this task more difficult in the Great War, but a similar system to that which had supported Grant's campaigns likely would have suited Haig's for much of the war - the only new technological device to have become readily available in the interim was the automobile but ship and rail traffic still accounted for by far the greatest share of movements.

In any war, including wars which preceded and followed the Great War, a number of basic preconditions must be taken into account before battlefield success can be attained. These boil down to 'the morale of the troops, logistics, command and control, intelligence, and adequate resources.'[30] Of these, military administration can be said to play a direct role in at least three - morale, logistics and resources. Failure in any area implies difficulty, if not defeat, on the battlefield. For an army commander, therefore, administration must be secure, even if he is not required to spend great energy on it. Historians, however, tend to avoid the relatively boring aspects of 'routine' matters and focus on the glamour of command, control, communications and intelligence (C^3I in modern parlance).

This study will provide a new view of GHQ, one which does not suffer from

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29. Travers, *The Killing Ground*, 252-3. Travers suggests that Haig (and many others) were trapped in a nineteenth century paradigm of battle out of which they had great difficulty breaking.

30. Shelford Bidwell and Dominick Graham, *Coalitions, Politicians & Generals: Some Aspects of Command in Two World Wars* (London and New York: Brassey's, 1993), 28.

the diversions of an attack on, or defence of, Haig's tactical, operational or strategic abilities. Building on the work of Brian Bond, particularly his ground-breaking *The Victorian Army and the Staff College, 1854-1914* (1972), the first chapter assesses the British Army's pre-war ability to administer a continental army and concludes that they were not ready to do so. The next three chapters trace the ad hoc evolution of GHQ's administrative services and endeavour to show that growing pains, combined with the lack of economies of scale in British production, crippled the ability of the BEF to innovate. Next, the near-collapse of the transportation system due to the demands of the Somme offensive will be examined, and this will lead to a study of the impact of Sir Eric Geddes, a civilian transportation expert who rationalised the BEF's transportation system in late 1916, is in Chapters Four and Five. His solution to the problems of 1916 and the legacy that allowed the BEF's commanders to begin to experiment in 1917 unfettered by the constraint of a lack of materiel since it could be delivered in very large quantities from then on comprises Chapter Six. Chapter Seven illustrates the BEF's system in operation during the most demanding periods of the war - the retreat of the spring of 1918 and the advance of that same summer. Both Chapters Six and Seven will illustrate the importance of the administrative changes brought about by Geddes and make it clear that the methodological advances of 1917 and 1918 were directly underpinned by those changes. Administrative excellence in that period meant that the BEF's command officers did not have to concern themselves with supply, it could be assured, and so they were able to freely innovate. Finally, a brief study of the collapse of the administrative system after the Armistice and before the Peace will be made before an overall assessment of the system and the lessons learned during the war can be made.

This work concludes that the BEF developed, through a variety of means - ad hoc adaptation at first and a concerted change that better emphasised planning after 1916 - a highly effective and efficient administrative system during the Great War. This administrative system ultimately laid the ground-work for the great strides made in

the areas of operational art and tactics during 1917 and 1918 because, until the administration had been put in order by Sir Eric Geddes, innovators had been held back by shortages, first ammunition and then transportation, that retarded their ability to make methodological changes. The new system only broke down after the Armistice forced the BEF to advance to the Rhine without giving them the means to do so.

Chapter 1

Preparation for a Modern War?

The Staff College and Pre-war Staff Training

Of all western European armies in 1914, the British had the most practical experience of wartime campaigning. Others had to look to the Boer War, where British troops gained experience, or to the Russo-Japanese War, as with all western European observers, in a search for lessons. The British Army could call on a great many veterans of campaigns on the fringes of empire and benefit from their experience. This meant that the army found itself blessed with numbers of officers who had practical experience, not only in combat, but in creating and maintaining a line of communications under wartime conditions. Further, Britain had, by 1906, a general staff system (in the modern sense) and a long-standing staff college system for the training of such officers which helped to instill professionalism in the officer corps. At first glance, then, Britain appeared to possess a pool of experienced officers who could be relied on in war and the means to train more. However, this appearance rested on a paradox. The BEF should have been a skilled army led my men ready to administer its growth. However, while the troops proved highly skilled, the lack of administrative training for the officers meant that they were decidedly not ready to administer the war. The General Staff did not encourage exercises that taught administrative lessons, and the Staff Colleges trained future generals and chiefs of staff, not future quartermasters or adjutants. Further, the Staff College did not, at least in the nineteenth century, offer a secure route to promotion. Douglas Haig, Edmund Allenby and many others who would occupy the highest positions in the British Army during the Great War passed through the College in the late 1890s, but they owed advancement to patronage. Only after the Boer War did this begin to change, and the Staff College began to offer greater professional fulfilment to young officers. As a result, the British Army, rich in

operations experience, did not directly benefit as much as they could and should have from their experience in colonial warfare. Rather, they had to rely, as it turned out, on the inherently pragmatic nature of its senior administrative officers and on the latent administrative expertise available in Britain - the legacy of decades of running a global trading empire.

The origins of the BEF's administrative success resulted from a long history of colonialism and colonial war which determined the British reactions to the challenge of a return to continental war. In 1914, Britain fielded an army unlike any other in the world. Long-service, regular, professional soldiers formed its small core, backed up by the Territorial Force, the Indian Army and various colonial militia. In terms of its regular force, Britain had some similarity with America - both had small armies - but Britain's global commitment made its army unique. Britain could and did fight all over the globe in the far-flung reaches of its Empire. Britain, however, lacked an army of sufficient size to take a decisive part in continental operations. The history of British commitment overseas left its army quite unprepared for modern, continental warfare in 1914. Matters might have been worse but for the Boer War of 1899-1902, which had come as a shock to the establishment. As a result of the reforms which followed the Boer War, the army fielded in 1914 proved far more capable than it had been during that conflict. The combination of a Staff College (really a war school), and the creation of a General Staff system following the Boer War had created a climate suitable for change, though change did not come quickly. What Britain had, by 1914, was a group of officers well on the way to what we might recognise as modern professionals.

While officers were well on their way to becoming professionals, their composition and biases rested squarely on how they were trained and particularly on the evolution of the Staff College. The College had the object of training 'officers not only for staff work but also for the duties of command,' and the unstated goal of creating a British school of thought on warfare that could be disseminated to the

officers of the British Army.[1] Of these goals, the latter took effective precedence, and the Staff College's early influence on the British Army, particularly on its administrators, proved to be minimal. Passing through Camberley gave no guarantee of promotion or responsibility; the system of patronage remained far more important. As Tim Travers has shown, influential patrons made or broke careers in the Edwardian Army, and officers who succeeded in that system commanded the BEF in 1914. The Army 'was really a faithful reflection of Edwardian society;' one in which class, upbringing, schooling and powerful patrons had a tremendous impact on a career.[2] Thus, 'The Regiment' and affiliation to it and all that it embodied proved far more important than education if one had aspirations to higher command. Though Douglas Haig, William Robertson, and many others who would make names for themselves during the Great War passed through the Staff College in the 1890s (many of them in 1896-7), they owed their advancement largely to the old school of patronage rather than to the College. Indeed, when the biographies of officers who rose to high positions in the BEF during the Great War are consulted, there is a dearth of information about their time at the Staff College. Haig's major biographers, for example, devote between two and six pages to information on his time at the College, and these focus mainly on a comparison with his peer, Edmund Allenby, who also attained the Field Marshal's

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1. William Robertson, *From Private to Field Marshal* (Boston and New York: Houghton, Mifflin, 1921), 170 and Brian Bond, *The Victorian Army and the Staff College 1854-1914* (London: Eyre Methuen, 1972) 82-3.

2. Tim Travers, *The Killing Ground*, 27. For examples of the system at work, Travers looks briefly at Aylmer Haldane and Douglas Haig in light of how patronage benefitted their careers on pages 7-10.

baton.[3] Had the Staff College been an important route for promotion, then this would be much better reflected in their biographies.

Students entered the Staff College through passing a series of competitive examinations which should have brought the best and brightest to the College, but did not. Some candidates entered on the recommendation of the Commander-in-Chief which allowed for patronage and the potential of less able officers getting in. Further, the Artillery, Engineers and Indian Army suffered under-representation due to regulations that limited the Artillery to four entrants per year, and the Engineers to two, while financial problems brought about by the distance from India limited the number of Indian Army officers attending. In addition, artillery, engineer, and Indian Army officers did not receive 'Corps' pay while at the Staff College, thus increasing their financial burden still further. In fact, the Royal Engineers had not sent officers to the Staff College until 1872, since the Army held their programme of education at Woolwich to be as good as, or superior to, Camberley's.[4] As a result, the Staff College did not get all of the best qualified applicants in any given year. In 1896, for example, only 23 candidates entered the College by examination, despite 34 passes, because eleven artillery and engineer officers over and above their quota passed the exam.[5] The British Army, therefore, failed to fully tap the great potential of the technical branches - had the College been training future quartermasters, then these

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3. Haig's time at the College is covered in Duff Cooper's *Haig*, 46-7, John Charteris's *Field Marshal Earl Haig*, 11-15, James Marshall-Cornwall's *Haig as Military Commander* (New York: Russak and Company, 1973), 9 and E K G Sixsmith's *Douglas Haig* (London 1976), 11-16; Allenby's Staff College period in Archibald Wavell's *Allenby: A Study in Greatness* (New York: Oxford University Press, 1941-44, two volumes), 61-4, and Brian Gardner's *Allenby* (London: Cassell, 1965), 14-18. In general, these all focus on comparisons between the two future Field Marshals rather than the College itself.

4. Bond, *Victorian Army*, 95-6.

5. *Edmonds Memoirs, Chapter XIV: 'The Staff College 1896-7, Haig, Allenby, Robertson, Dyer*, 259, Edmonds Papers III/2, Liddell Hart Centre for Military Archives, King's College London (Hereafter LHCMA).

branches should have been more heavily tapped, or at the very least not have fallen under quota restrictions.

James Edmonds, an Engineer and later Brigadier-General and British official historian, exemplifies the system and his story illustrates the fact that comparatively few technical soldiers entered the Staff College. He entered the College at the top of his examination group in 1896. According to his story, which is reasonably plausible, he and George Macdonough, another Engineer, passed in with such high marks that they made the other candidates look inadequate and forced a revision of the grading and announcement procedures, though the number of engineers allowed to attend the College each year remained unchanged.[6] Unfortunately, as an engineer, Edmonds forfeited his Corps pay while at the College 'on the pretence that [he was] not employed on Corps work.'[7] As with artillerymen and India Army officers, therefore, it cost Edmonds quite a sum to get his credentials.[8] This must have proven a significant disincentive for any non-cavalry or non-infantry officer on the financial borderline. Additionally, candidates faced these two costly years away from their patron for the qualification *psc* (passed staff college) with no guarantee of future promotion or advancement. Often it proved a safer bet to stay with their regiment and thus closer to their patron, rather than go to Camberley and risk the danger of being 'out of sight, out of mind.' Edmonds summarised the attitude in the higher echelons of the army, writing, 'the army generally believes that influential backing is more important than the possession of brains and professional ability.'[9] Indeed, Major-General Sir W E

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6. Ibid., 259-61.

7. Ibid., 263.

8. *Edmonds, note on memorandum 3 November [?] 1906*, Edmonds Papers I/2B/6, LHCMA: Edmonds notes that Indian Army, RGA, RE and ASC officers forfeited pay while at the Staff College.

9. Ibid.

Ironside commented at a post-war lecture that he could remember a number of first class regiments that had taken great pride in not sending officers to the Staff College. He felt that they had gone for the 'cult of the practical soldier' because staff work had been seen to be dull, dreary work not suitable for a fighting man.[10] Patronage and the regiment remained the best routes of advancement. Unfortunately for Edmonds, he had not found a place in a clique which promised rapid advancement, not having been able to attach himself to Lord Kitchener's 'Egyptians,' Lord Roberts's 'Indians,' the rising star of Lieutenant-General Sir John French, or the older Wolseley 'Ashanti Ring.' On the other hand, Edmonds's contemporary, Douglas Haig, secured rapid promotion and an eventual rank four grades higher than Edmonds as a result of Haig's association with John French. Even so, a good number of officers went willingly enough to the College as it gained a better reputation and increasing respect and slowly became more of a prerequisite for promotion.

The curriculum at Camberley reinforced the importance of command over supply and logistics, meaning that its rise to respectability only reinforced a focus on command. Colonel G F R Henderson, later author of *The Science of War* (1905) helps illustrate this. Henderson held the chair on the Directing Staff with responsibility for the teaching of military history during the period when many of the future BEF's senior officers passed through. He had been responsible for the important step of reintroducing the study of the American Civil War at the College[11] and even though most European armies chose to ignore many of its lessons, the importance of the American Civil War cannot be overstated. This war, fought over an area nearly the size of Europe, illustrated many of the lessons which had to be applied to the Great War. The concept of total war made an appearance, as did trench warfare, and the increasing

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10. W E Ironside, 'The Modern Staff Officer,' a lecture presented to the Royal United Services Institute on 18 January 1928 published in the *Journal of the Royal United Services Institute*, Volume LXVIII, 1928, 436. Hereafter *JRUSI*.

11. Thompson, *Lifeblood of War*, 35.

effectiveness and lethality of fire-power made the battles very bloody affairs. In spite of these changes, most of the true lessons of the American Civil War should have come from study of General Ulysses S Grant's campaigns in the West because those campaigns occurred at great distances from Union supply sources. Grant's campaign, which culminated in the siege and then capture of Vicksburg on 4 July 1863, proved far more difficult to administer than any in Virginia because of the distance from sources of supply, but the glamour of Robert E Lee and his lieutenants obscured the western theatre, and attracted most of Henderson's instruction. Though Henderson himself apparently recognised the importance of the West, he did not pass this on to his pupils. Thus, many of the line of communication lessons that could have been drawn from Grant's experiences did not get the recognition they deserved.[12] By focusing on Robert E Lee, undoubtedly a skilled commander, Henderson reinforced the glamour of command at the expense of administrative lessons.

Henderson drilled his pupils and inculcated them with his 'principles of war' but the vital importance of supply and administration did not feature prominently in those principles. Of Henderson's twenty-one principles, only five dealt in any way with lines of communication, and only one dealt solely with them. This, the eighth, stressed that the direction chosen for an advance should be governed by the ability to protect one's own lines of supply and retreat while threatening one's enemy's.[13] His pupils, as a result, lacked a sound basis in the requirements for the administration of an army though they did receive a solid grounding in the principles of commanding one. As Henderson's pupils included Douglas Haig, James Edmonds, William Robertson, Richard Haking, E M Perceval, and Edmund Allenby (of whom three would become

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12. Ibid., 36. Thompson gives a good thumbnail sketch of the American Civil War from a supply perspective on pages 28-32.

13. *Notes on Strategy by Colonel Henderson, Compiled for the use of Students at the Staff College*, Robertson Papers I/2/10, LHCMA

Field Marshals) his impact on the Great War would ultimately prove significant.[14]

While the College became, over time, increasingly important to the Army and as a route for promotion, the tendency of the instruction meant it became more of a war school than a staff school. As a result, while commanders received sound training and instruction, there must have been blind spots, particularly in the realm of administration. The areas of instruction covered at the College varied over time, but the essentials drilled in to Haig and his contemporaries were Military History and Geography; Imperial Defense; Transport, Supply, Economic Geography and Commercial Law; Medical and Ordnance Services as they applied to staff and command positions; Staff Tours when time and money were sufficient; and other subject areas such as languages.[15] Of these six areas, two can be considered administrative - Transport, Supply, Economic Geography and Commercial Law; and Medical and Ordnance Services. The rest dealt with command, particularly higher command positions. Therefore, although the system of supply and transport obviously received some attention, the emphasis on command down-played the importance of lines of communication. The study of battle and command received a higher priority than did supply, while in reality, the study of battle and command is useless unless one can put one's formations in a position where the commander's knowledge can be applied. Britain needed a college for the training of future senior officers - given the small size of Britain's army, theory had to make up for practice - but the Army could also have benefitted greatly from a college designed to train officers in the mundanities of supply.

Staff College papers often asked quite open-ended questions that forced the students to examine problems in a good deal of depth, but even these stressed command roles and lessons without a corresponding consideration of their

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14. *Edmonds Memoirs, 'Staff College Class of 1896,'* Edmonds Papers I/2A/3-4, LHCMA: Haig and Allenby of the 1896 class became Field Marshals, Robertson of the 1897 class attained that rank.

15. Robertson, *From Private to Field Marshal*, 171.

administrative repercussions. For example, during Archibald Montgomery's tenure at Quetta,[16] students received the following statement:

> Every general engagement should have for its object a decisive victory, in order to bring a campaign to an end in as short a time as possible. It may occasionally happen, however, that it will be advisable for the defender to be content with repulsing the attack, or for the attacker with manoeuvring his enemy out of a position[17]

They then had four days to produce a paper on the problem raised. While clearly a problem to challenge students, such a question is far better suited to the training of commanders and operational staff officers than to the production of effective administrators. Rather than training future quartermasters, the College worked at training officers to take up command and operations staff positions. The inherent appreciation of the importance of lines of communication, as understood by serving officers who in many cases had seen active war service, ultimately proved far more important in the long run than specific Staff College lessons.

While officers had a long line of colonial wars from which to draw lessons, the Boer War provided them with the best opportunity to learn about administration and command in a war against a foe with modern weapons.[18] In South Africa, the British Army found itself fighting a particularly unpleasant war at the end of a prohibitively lengthy line of communication containing both sea and land elements. Their Boer

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16. Quetta was the Staff College for India sanctioned by the War Office in 1905. Montgomery, who later took the name Montgomery-Massingberd, was a member of the Directing Staff there in 1912 and 1913.

17. *Notes on the Staff College*, Montgomery-Massingberd Papers 3, LHCMA

18. The start of the South African War in 1899 brought a temporary end to instruction at the College, as the War Office plundered it for its people, both students and instructors - G F R Henderson, for example, ended up on Lord Roberts's intelligence staff there. Over the course of 1899 and 1900 the College petered out of existence, until it closed in April 1900 because, quite literally, no staff or students remained. It would not reopen until the war ended. See Thomas Pakenham, *The Boer War* (New York: Avon Books, 1992 paperback edition; First Published by Random House Inc, 1979), 331; A R Godwin-Austen, *The Staff and the Staff College* (London 1927), 237; and Bond, *Victorian Army*, 194.

opponents could mount no realistic threat to British sea lines of communication, so most of the supply chain proved secure. The line of communication had to be created from nothing, though, and on land it proved vulnerable to Boer Commandos. The officers assigned to the lines of communication found little precedent for their task, as no plans for operations in South Africa existed, and the instruction in the Staff College had not been geared to administration.[19] Though little had been committed to paper, the experiences of the British Army in the nineteenth century left it with considerable experience of campaigning at an extended distance from Britain - the Crimea in 1854-6, China in 1856-60, and various campaigns in India and Africa during much of the last quarter of the nineteenth century. All these earlier campaigns required logistical success before a decision on the battlefield could occur.

The British Army in South Africa suffered from inefficient staff work created by command problems and this should have provided examples for the Staff College to emphasise after the war.[20] The staffs in theatre often proved unable to make up for deficient generalship or, alternately, often suffered from neglect and misuse by the officers they should have been helping. For example, General Sir Redvers Buller suffered serious battlefield set-backs early-on in his campaigning, and these were exacerbated by poor divisional Commanders. Eventually, after being replaced as GOC in South Africa by Lord Roberts and relegated to the Transvaal, Buller figured out new tactical methods that combined fire-power and dispersion of infantry so effectively that the Boers could not stop his attacks.[21] An example of misuse is provided by Kitchener who managed the Battle of Paardeburg by sheer force of personality, not because he

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19. Correlli Barnett, *Britain and Her Army 1509 - 1970* (New York: W Morrow, 1970), 341.

20. Ibid., 342.

21. Pakenham, *The Boer War*, 362-8.

relied on the General Staff at his disposal and of which he was the Chief of Staff.[22] A lack of appreciation of the need for secure lines of communication also led to the disaster of Waterval Drift, when Major-General W F Kelly (acting Chief of Staff) refused to increase protection for a long supply column which promptly fell victim to Christiaan de Wet's Commando - known to have been operating in the area.[23]

Despite such staff and command problems, the administrative sides of the staffs in South Africa appear to have operated reasonably effectively and the Army Service Corps (ASC) with some distinction. They had been, after all, able to keep the large army in theatre supplied at the end of a prohibitive line of communications created from virtually nothing.[24] Had they been completely inefficient, there would have been far more difficulty in eventually defeating the Boers.

The British Army learned a number of lessons from the Boer War. Of all of them, the importance of logistics proved both the least obvious and the most far-reaching because it undoubtedly had an impact on a number of officers who served in South Africa, even though the Staff College did not stress the lesson. The errors made by Lord Roberts and his Chief of Staff, Kitchener, in the field of transportation proved costly during the early, conventional phase, of the war. Roberts and Kitchener had centralised control of and distribution of their transportation services even though neither possessed an understanding of how the regimental transportation system actually worked.[25] Shortly afterwards, Christiaan De Wet's Commando had ambushed Roberts's ox wagon train at Waterval Drift (mentioned above) and deprived Roberts of

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22. Bond, *Victorian Army*, 182, 187.

23. Pakenham, *The Boer War*, 319-20, 332. See also Bond, *Victorian Army*, 190.

24. Barnett, *Britain and Her Army*, 342.

25. Pakenham, *The Boer War*, 326, 333.

roughly one-third of his transport.[26] To compensate, Roberts had to use Lieutenant-General Sir John French's transport, which French had successfully kept from the centralisation manoeuvre, for the march on Bloemfontein. As a result, French's cavalry reached Bloemfontein in no condition to fight or pursue the retiring Boers.[27] Roberts felt that French should have captured President Kruger a week before at Poplar Grove, but French had not believed his horses could have done much more than they had done due to their very poor condition. Such recrimination over a matter that could have been avoided had the original transport arrangements been left in place by Roberts and Kitchener must have stuck with French; he would not have forgotten it. Immediately after the capture of Bloemfontein, Roberts's lack of interest in the mundanities of administration, combined with the shortage brought about by De Wet, left the Army there suffering great hardship and deprivation.[28] Although many officers missed the importance of fire-power in the Boer War, the lesson that transportation was a vital tool for a modern army must not have been lost on both Sir John French and his Chief of Staff (Colonel Douglas Haig). Though neither apparently sat down and put any observations on paper regarding transportation, neither made any effort to tinker with their transportation systems in their next war, except, as will be seen, when a failing system forced it.

Having been closed early in the Boer War, the Staff College reopened after the war and continued where it had left off, though the instruction began to become less formal - pupils who had seen and been decorated in war were not going to accept the type of formal instruction of the pre-war period. In addition, it is clear that a new and

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26. Ibid., 334.

27. Ibid., 393.

28. Ibid., 401-2.

progressive atmosphere had taken over the College - one more conducive to learning.[29] The combination of instructors and students with practical experience of warfare and a series of influential Commandants ensured this. Unfortunately, the curriculum continued to focus on operations and neglect administration, even though the creation of lines of communication in and to South Africa had been well worth study. Had such a study been undertaken, the difficulty that Sir Henry Brackenbury (Director General of Ordnance) had during the war would doubtless have come to light. This might have led to a better understanding of Kuropatkin's problems in Manchuria which, in turn might have lessened the effect of the shell crisis that, as will be seen, crippled the BEF in 1915.[30] As a result, the logistic lessons of that war atrophied as the glamour of strategy and tactics again dominated Staff College curriculum.

The rise of the professional staff officer in Britain comes partly out of the Staff College and partly from the reforms of 1904-06, with both helping to lay the foundations for the eventual success of the administrative system in France during the Great War. The institution of the College and its teachings were to have an impact on the administration of GHQ during the Great War. Given the general lack of training on administrative matters at the College, though, the advent of the professional officer in Britain probably had a greater impact. As Professor Bond suggests, College graduates had a major impact on the senior postings in the BEF, primarily in command or operational staff positions. The College's impact on administration is, at best, unclear.

The Esher and Haldane reforms of 1904 and 1906 created a true General Staff system for Britain which laid the groundwork for the rise of professionalism in British officers, and this in turn helped create an appreciation for administration that did not come through clearly in Staff College instruction. Lord Esher created an Army Council

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29. Bond, *Victorian Army*, 194-95.

30. This is the gist of the argument used by Sir William Robertson in his *Memorandum on the Supply of Artillery Ammunition to the Army in the Field, 10 June 1915*, Robertson Papers I/9/4, LHCMA

in February 1904. This laid the groundwork for Haldane to create a General Staff by means of Army Order 233 of 12 September 1906.[31] The finishing touches on the system which created the machinery of a proper General Staff within the regimental structure of the British Army came in 1907 with the creation of three grades of staff officer.[32] The British Army, although somewhat backward in comparison to the other armies in Europe from a staff perspective because of the relative lack of pedigree of the 'General Staff:'

> was perfectly satisfactory for the purpose for which it existed, which was to provide as cheaply as possible an imperial gendarmerie capable of fighting colonial wars, together with a small expeditionary force for coalition war in Europe.[33]

This could be explained in large part because the army's regimental system looked for the qualities of 'loyalty, integrity, courage, leadership and determination' but not necessarily brain-power.[34] However, this should not detract from the fact that the British Army had succeeded throughout the nineteenth century at keeping the Empire secure. Even the Boer War, noted for many failings in the army at all levels, could not be considered a total failure, for the Boers had come to peace terms, the army had learned many lessons, had applied them on the battlefield in most circumstances, and should have been able to teach them at the Staff College.

The Commandant of the Staff College exerted a significant influence both on the way in which things were taught and by personal example, but this did not change the College's emphasis on command. Brigadier-General Henry Rawlinson (later Baron and General) brought a number of good qualities to the office when he arrived in 1904 -

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31. *Edmonds Memoirs, Chapter XIX: General Staff, War Office Intelligence Division 1904-1906*, 358-9, Edmonds Papers III/4, LHCMA. See also Godwin-Austen, *Staff College*, 241, 243.

32. Godwin-Austen, *Staff College*, 245.

33. Bidwell and Graham, *Coalitions, Politicians & Generals*, 13-14.

34. Ibid., 14.

a professional outlook, the confidence of a man comfortable in his profession, comparative youth, and money. He was, as Professor Bond states, someone the students could look up to and either consciously or subconsciously emulate.[35] Rawlinson was a former student of the College, indeed he had been part of a rather impressive syndicate during his study there - Rawlinson, Aylmer Haldane, Henry Wilson, and Thomas D'Oyly Snow, all of whom held senior positions or commands in the Great War, and all of whom attained the rank of at least Lieutenant-General.[36] Finally, he also benefitted from a high quality Directing Staff.[37] When he handed the College over to Brigadier-General Henry Wilson (ultimately Field Marshal) in 1907, the British Army had set itself decisively out on the road to creating a fully professional cadre of command and operations staff officers. It had not, however, begun to create a pool of trained administrative officers.

Wilson brought an active imagination, broad view, enthusiasm, and engaging personality with him to Camberley. Wilson enjoyed challenging convention and spurring independence of thinking, but he had his flaws. Haig, for example, referred to him by the nick-name of 'Scatters' because, 'he is not very reliable - the one quality which in my opinion, a Staff Officer cannot do without.'[38] Wilson arranged for an increase in the numbers of both Directing Staff and students and 'extended the scope of staff duties taught at the College by adding officers from the Army Service Corps and Medical Department to the Directing Staff.' Even so, administrative instruction

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35. Bond, *Victorian Army*, 196.

36. Aylmer Haldane, *A Soldier's Saga* (Edinburgh and London: William Blackwood and Sons Ltd, 1948), 60. Rawlinson became General Officer Commanding (GOC) of Fourth Army and a General, Haldane GOC of VI Corps and Lieutenant-General, Wilson ultimately became the Chief of the Imperial General Staff (CIGS), while Snow became GOC VII Corps and Lieutenant-General.

37. Godwin-Austen, *Staff College*, 242.

38. Haig to Kiggell, 5 April 1911, Kiggell Papers I/8, LHCMA

remained the weak point of the curriculum and a conservative streak continued to run through the College.[39] This is underscored, surprisingly, by a comment Douglas Haig made when he wrote to Launcelot Kiggell in 1910 and discouraged him from going to the Staff College because of the, '*talkers* at [the] W[ar] O[ffice]-Aldershot-Camberley and elsewhere who know not what war really is, nor Clausewitz' fundamentals.' Haig went on to write that 'I already see from your discussions at the Staff Coll[ege] Conf[eren]ce a tendency to split hairs, and a desire for *precise* rules to guide officers in every conceivable situation in war. This wants watching.'[40] Major-General Sir William Robertson (ultimately Field Marshal), Wilson's successor, could not be the man to change this attitude. Wilson's addition of Army Service Corps and Medical officers to the Directing Staff had been an important one, because any increase in the amount of instruction devoted to administration can have only helped, but Robertson himself also had an administrative impact.

Robertson, an immensely practical and professional soldier who had risen from the ranks, took over as Commandant in August 1910 and applied his pragmatic nature to the job. His teaching stressed the practical nature of soldiering and he appears to have taken to heart the idea that soldiers must be the servants of the elected and legal government of Britain - a most professional and thoroughly modern attitude. If the government felt that a war had become necessary, Robertson would not be the one to question it, though he would, as he later showed, have no fear of disagreeing with that government's grand strategy for the pursuit of the war. Further, he did not simply study battles acknowledged as 'classics;' rather he chose battles to make points and illustrate broader themes.[41] On the whole, he was perhaps too dogmatic and 'by the

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39. Bond, *Victorian Army*, 244, 253-54, 250.

40. Haig to Kiggell, 14 July 1910, Kiggell Papers I/7, LHCMA (emphasis in original)

41. Bond, *Victorian Army*, 274, 282-82, 285. See also Godwin-Austen, *Staff College*, 256-7.

book.' As one of his Directing Staff later wrote:

> [t]he weakness of the instruction generally (or at least it seemed so to me) was the tendency to take the regulations and official manuals as Bibles and to quote them incessantly, instead of encouraging the many quick brains to go one better and develop their own ideas. There was an air of orthodoxy about the teaching which spread downward from the commandant.[42]

Clearly, Robertson's Staff College remained a bastion of such orthodoxy, but his good sense and professionalism, perhaps more than Wilson's flair, was a good thing for future staff officers to emulate - particularly for those who would go on to administrative rather than operational staff duties, because the effective control of a line of communications requires hard work and common sense. One key, even though administrative training continued to be inadequately studied, was that the basic elements of what British soldiers took for strategy and tactics had at least become consistent and taught to all officers attending the Staff College. The British Army, rightly or wrongly, had created a system for the development and dissemination of both new (or old) ideas and a professional outlook, but not one that trained administrators.

Professionalism, more than any specific training at Camberley, created an awareness of the importance of lines of communication in the British Army because, to be a professional, a soldier needs to have an appreciation of the mundanities of his calling. Unfortunately for the BEF, this growing awareness remained secondary to operational considerations. One clear sign of professionalism, contingency planning, entered the consciousness of the British Army by the time of the Esher and Haldane reforms. Papers left from Robertson's time in the War Office's Intelligence Division, before he went to Camberley, demonstrate this. He was obviously responsible for considering numerous schemes for the defense of all parts of the Empire from a number of possible enemies - these ranged from another Boer rising, to America, France and

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42. *Brigadier-General J T Burnett-Stuart, Unpublished Memoir*, 71, Burnett-Stuart Papers III/6/6, LHCMA

Germany.[43] The British Army found itself in the position of having to prepare for three possible contingencies. As they saw it, these amounted to:

1. Action against semi-civilized foes or savages.
2. Action against European foes, by our forces alone.
3. Action in combination with a continental ally.[44]

Of these, the third option appeared most likely, but had the Army simply prepared for it alone, they would have been completely unprepared had another circumstance come to be. Britain's strategic position in this regard differed substantially from the other great powers. Of Britain's potential continental foes, neither Russia nor Austria-Hungary had overseas empires to concern themselves with; the French Empire did not encompass anything like the area of the British Empire; and problems in the German Empire would largely have been settled at British sufferance. Although Russia had interests in the Far East, and both Russia and Austria-Hungary had interests in the Balkans, their competition with each other in that region posed a far greater and more serious danger than did the possibility of colonial wars. In a like fashion, France and Germany's concerns over each other, particularly their mutual border, outweighed their potential imperial problems. Indeed, their imperial difficulties revolved more around each other than around a third party.[45] Britain, shielded by the might of the Royal Navy, could view war on the continent as no more than one possibility out of many.

As a result of the nature of the British Empire, British planning had to consider a wide range of options, though they could plan more comprehensively for the more

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43. Cf Robertson Papers I/2/5-9, LHCMA, which contain a variety of notes and observations on the United States, the Balkans and Russia.

44. T A A M Cuninghame, 'The Supply of a Division in the Field, with Special Reference to the Use of Mechanical Transport,' a lecture at the Royal United Services Institute on 13 December 1911 published in the *JRUSI*, Volume LVI, 1912, 9.

45. Cf Germany's actions during the two Moroccan crises before the Great War in A J P Taylor, *The Struggle for Mastery in Europe, 1848-1918* (Oxford 1954), 439-40 for Algeçiras and 466-72 for the Agadir Incident and Zara Steiner, *Britain and the Origins of the First World War* (New York: St Martin's Press, 1977), 71-6 for a British view of the latter crisis.

likely cases. For example, by 1906, war with Germany in alliance with France was seen by the War Office to be 'within the bounds of possibility, and is an eventuality to be seriously considered,' while war with the United States could be viewed as being both improbable and a national calamity for both countries if it occurred.[46] Such planning followed on the heels of a wargame the year before, held at the Directorate of Military Operations, which had studied a scenario involving Britain in a war with Germany while allied to France.[47] With the advantage of hindsight it is evident that the United States did not pose a likely threat to Britain at the time these plans were drawn up, however, planners at the Directorate of Military Operations could not be entirely certain, so some plans had to be drawn up, even though they proved rather fanciful.[48] While such planning, with its unrealistic forecasts of probable force requirements - 120,000 with 20,000 reinforcements per month in the case of war with Germany while allied to France[49] - and general lack of emphasis on lines of communications might be put down to military ineptitude by the armchair strategist, it is far better to give credit to the fledgling General Staff for beginning serious contingency planning; a sign of professional officers doing what a General Staff should.

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46. *Memorandum Upon the Military Forces Required for Over-Sea Warfare*, 1906, Robertson Papers, I/2/6, LHCMA. Hereafter *Over-Sea Memorandum.*

47. WO 32/364, *Records of a Strategic Wargame, Directorate of Military Operations, General Staff. January 1905*

48. In fact, it is clear that the United States posed a serious threat to any European great power and that its power was steadily and rapidly increasing (see Kennedy, *Rise and Fall of the Great Powers*, 242-4). However, the turn of the century rapprochement between Washington and London and the generally isolationist sentiment in the United States left it politically unwilling to pose that threat.

49. *Over-Sea Memorandum.* Robertson's figures for another Boer War were 185,000 with 24,000 every three months to keep up strength. Of this total, roughly a third would be cavalry and most of the infantry would be employed on the line of communications. The United States figures were 200,000 plus 25,000 per month to drive the United States's forces out of Canada. The former might have sufficed, the latter would have proven hopelessly inadequate.

The system of educating professional officers received a boost in January 1905 with the sanctioning of a second college at Quetta, India, and its official opening on 1 June 1907 by Lieutenant-General Sir Horace Smith-Dorrien.[50] Smith-Dorrien mentioned in his address at the opening that, unlike in 1888 when he passed out of Camberley and waited four years for a staff posting, there was promise of immediate postings for graduates in the army of 1907. There would be no great need for the new graduates to use the influence of senior officers to get themselves posted to staff positions.[51] This allowed not only for a greater volume of staff officers to be trained, but for a larger number from the Indian Army - 218 officers had been trained at Quetta by the outbreak of the Great War.[52] The students at Quetta received the same basic syllabus as at Camberley and went through the same basic system. As with Camberley, Quetta endeavoured to turn out officers who would be capable of commanding Corps and Armies rather than administering them. While lines of communication did not get entirely neglected by the pupils, they do not appear to have been very heavily stressed by the curriculum. Rather, as professional soldiers, the students and instructors took their importance for granted, but did not appreciate how hard the task of administering them could be in a real shooting war against a true world power. Additionally, a new form of patronage, administrative or staff patronage, began to develop. Edmonds in his memoirs gives the example of the rapid promotion available in administration, comparing the promotion rates of an administrative officer (Lieutenant-General Belfield) to a field officer (Brigadier-General Phipps-Hornby,

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50. Godwin-Austen, *Staff College*, 250, 251.

51. Ibid., 252. Smith-Dorrien required the influence of Sir Evelyn Wood to get his staff posting.

52. Ibid., 254. See also Bond,*Victorian Army*, 205, 208.

VC).[53] This put a different twist on the concept of patronage because it meant that the lack of membership in one of the older 'rings' did not necessarily slow promotion if one was willing to specialise in administration, and sever one's route to command.

One of the greatest problems faced by the British Army prior to the war, though they did not fully realise it at the time because the scope of their next war had not been foreseen, concerned the concept of size. British general officers had little practical experience in commanding large bodies of men - Sir John French had the most of any officer destined for the BEF, yet he had commanded, at best, perhaps the equivalent of a weak corps in South Africa. In a like fashion, administrative officers had little experience in maintaining a large formation in the field. This problem permeated the Army and left them incapable of planning for the truly large formations they later commanded. Rather, when the time came, the British would have to rely on the professionalism of their officer corps to bridge the gap between the theory of the Staff College and the practice of the Great War. Comments on a lecture delivered at the Royal United Services Institute in late December 1911 on the subject of supplying a division in the field exemplify the fact that the British did not realise what might occur. The crux of the lecturer's (Captain T A A M Cuninghame) argument hinged on the idea that two or more divisions drawing supplies up or moving on the same road would cause problems. One of the questions he left for the audience was 'Is the contingency of two divisions on one road without interval normal or not?'[54] The consensus on this question was that it might very well be normal in the future, and that commanders should try and avoid it by ensuring that each division had its own road. In other words, they saw that larger formations might be the norm in the future, but they did not carry this any further. One particular comment, by Major-General W P Campbell,

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53. Edmonds Memoirs, Chapter XXII, 1-2(433-4), Edmonds Papers III/7, LHCMA

54. Cuninghame, 'The Supply of a Division in the Field,' 23: unless otherwise noted, all further references to this problem come from this source.

illustrates this. Campbell suggested that divisional commanders must stay in touch with the General Officer Commanding the Line of Communications (at the time the Inspector General of Communications, or IGC) in order to make things work. However, this would only be possible in a small expeditionary force - once eight, ten, or more, divisions had been reached it would simply complicate matters. The IGC in France during 1915-16 would not have been able to do his job at all had he been in constant touch with all forty-odd divisional commanders and their staffs; he would have been buried under a veritable blizzard of paper-work. As it was, the IGC's war diary for the years 1914-1916 nearly out-massed the war diaries of Q, A, and G branches at GHQ, combined, for that period. Another example involved hay and fodder for the horses of supply trains. The audience had assumed that these could be found in the area of the campaign, while on the march - clearly, had anyone realised the scope of what they had coming, this view would have changed. The Staff College, however, had not inculcated this - though it must be said that few, if any, could have accurately projected the massive expansion of the Army that would be required in 1915-1917. The lack of emphasis on supply and administration was partially offset by the pragmatic nature of the British officer. This pragmatism grew, ironically, out of an anti-intellectualism that stifled efforts to create a coherent doctrine of battle. It thus sometimes made planning and preparation difficult. At the same time, it allowed officers to adapt to a variety of circumstances and geographic obstacles.

The British Army of the period also proved unprepared for the Great War because it lacked a coherent 'doctrine' of battle.[55] Given the prospect of global service, and the lack of any ironclad decision to commit troops to the Continent, this can be no

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55. Doctrine in the modern sense refers to a set of rules, regulations and methods that, taken together, describe how an army will approach battle. For example, the German blitzkrieg of the Second World War represents a method of operational and tactical warmaking that stressed manoeuvre, concentration of armour and airpower and sound small unit tactics. While the British Army of the Great War would have avoided the use of the term, doctrine will be used to refer to their methodology in the operational and tactical spheres during that war.

surprise.[56] British troops might find themselves in action on the mountainous Northwest Frontier in India, or the veldt of South Africa, or the desert in Egypt. As a result, any 'doctrine' applicable to one might, and probably would, be wholly inappropriate to another. Methods would have to be worked out as and when the Army knew where it would be fighting. Traditionally, the British Army has:

> [deprecated] any notion that war can be regarded as the manipulation of fixed quantities, it has always stressed the value of pragmatic - or vicarious - experience, in which the human element is a critical component.[57]

This is certainly true of the pre-war Army, to its operational and to a degree its tactical detriment, for it encouraged anti-intellectualism.[58] As a result what we might term the development or evolution of doctrine, though the army of the period avoided the notion of doctrine, was stifled. To their credit, though, it must be borne in mind that British officers did have far more practical campaign experience than their counterparts on the continent. Additionally, French and German doctrine left much to be desired in 1914.[59] The ideal of pragmatism may have stifled any advance towards a truly coherent doctrine of battle, but it would have tremendous benefits in France in 1914-1915 when the inherently pragmatic nature of the British officer allowed the BEF to tackle its expansion.

When the British government finally supported Belgium (and France) and declared war on Germany it sparked off a rush to the colours throughout the Empire.

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56. Bidwell and Graham, *Fire-Power*, 18.

57. Brian Holden Reid, 'War Studies at the Staff College 1890-1930,' *Strategic and Combat Studies Institute Occasional Paper No.1* (London: Her Majesty's Stationery Office for the Strategic and Combat Studies Institute, Camberley, 1992), 2.

58. Bidwell and Graham, *Fire-Power*, 19; Holden Reid, 'War Studies at the Staff College,' 2.

59. See Michael Howard, 'Men Against Fire: The Doctrine of the Offensive in 1914' in Peter Paret (ed), *Makers of Modern Strategy from Machiavelli to the Nuclear Age* (Princeton: Princeton University Press, 1986), 510-526.

In like fashion, officers rushed to the Expeditionary Force preparing to go to France. In a remarkable example of war fever, nearly every officer in Britain with any aspirations or ability was either seconded to the force, or found some way to be.[60] In addition to being the best trained army ever to leave British shores, the BEF of 1914 was certainly the best staffed as well. Nearly every officer who had achieved the initials *psc* in the pre-war courses at the Staff College, Camberley or Quetta, found himself in a staff or command position in France. In addition, most of the students at the College in 1914 found themselves as Assistant Embarkation or Railway Transport Officers helping to smooth the despatch of the BEF to France prior to their immediately forthcoming postings there.[61] J F C Fuller proved to be perhaps the lone exception, as he stayed on in Britain rather than proceeding to France. Indeed, he claimed that he had to insult Brigadier-General J P duCane (BGGS, Second Army, Central Force in England) in order to eventually get his posting to France.[62] The Staff College largely closed down, its Directors going to France with the students, and no one paid heed to the possibility of a prolonged war.[63] This must have resulted from the belief that the war would be over quickly and that the BEF would need as many trained *psc*'s as could be accommodated - an error that foresight might have avoided and that hindsight tells us should have been avoided. Quetta, too, was allowed to close down on 15 September 1914, even though one of the lessons of South Africa had been the need for large numbers of trained staff officers, making it a mistake to allow both Quetta and Camberley to shut down.[64] In one brief stroke, much of the improvement at the Staff

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60. Bond, *Victorian Army*, 299.

61. Ibid., 303.

62. J F C Fuller, *Memoirs of an Unconventional Soldier* (London: Ivor Nicholson and Watson, 1936), 50.

63. Bond, *Victorian Army*, 303.

64. Godwin-Austen, *Staff College*, 254, 263.

College had been erased, for, some months later when the full scope of the war became apparent, the Army had no method for the training of the thousands of staff officers required by the New Armies.

So great was the significance of the former students of the Staff College that only five of forty-six senior officers who held posts in France in 1914 were not Camberley or Quetta graduates. In spite of its earlier unimportance, the Boer War had marked a change in attitude towards the Staff College and by the time the crunch came, Staff College credentials were an asset for young officers with high aspirations. When the command structure of the BEF is further broken down, and the fighting commands (divisions) considered, only Fergusson of 5 Division did not have the qualification *psc*; the rest had been through Camberley.[65] The Staff College, by training so many officers who held the posts of influence in the BEF, exerted a tremendous impact on that formation's evolution - primarily on the command and operational staff side of GHQ. There is, however, some uncertainty as to the impact of the Staff College on the administration of the BEF. Although the influence of Robertson would prove profound, the number of *psc*'s that he had working for him did not approach, in number or proportion, those who went to command or operational staff positions.

Professor Bond has noted the absence of an emphasis on administrative services in the pre-war Staff College. Indeed, the Staff College did not prepare officers for the demands they would face in the Great War. Rather, training focused on the General Staff - operations services and training of a General Branch staff officer. How, then, did British staff officers learn to administer their army in the field? Clearly, there are a number of parts to this question. Haig, in 1911, wrote Kiggell to say that he felt that soldiers (in other words, officers) needed a general education before enlistment, to be followed by a general military education and the Staff College, and

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65. Bond, *Victorian Army*, 338-40.

specialization once posted to their regiments.[66] This comment clearly shows the importance placed on the regiment as a place for instruction; so too in the divisions which carried out staff rides and war games on a regular basis.[67] Haig's comment to Kiggell made a great deal of sense. He went on, however, to disparage the methods of examination used at the time, and, in particular, cast aspersions on the value of mathematics, writing:

> It seems to me to be almost impossible to set a simple mathematical paper without having catch questions in it. ... Both Braithwaithe [sic] and myself failed to pass the examination in mathematics for the Staff College, and neither of us have found any need for a more thorough knowledge of mathematics than we already possess![68]

A sound knowledge of mathematics, however, is vital for any staff officer or civilian involved in the movement and supply of armies in the field, even today, when much of the calculation is done by computer. In a sense, British logistics planning up to and in to the First World War illustrates the effects of ad hocism as practised by professional officers - by making sound choices of officers to staff the administration of field armies, the War Office set up situations in the nineteenth and early twentieth centuries where pragmatism could succeed and the latent expertise in Britain of administering a global trading empire could be tapped. While not a clear part of the curriculum, the concepts of lines of communication had been considered at the Staff College, if only as part of the training for operations; the rest remained up to the pragmatism of the officers. The growing professionalism and pragmatism of British officers undoubtedly figured in its early use of motorised transport.

The British Army of this period has been harshly criticised for its Edwardian and even late Victorian attitudes towards warfare, but it pioneered the use of motorised

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66. Haig to Kiggell, 27 April 1911, Kiggell Papers I/11, LHCMA

67. See *Edmonds Memoirs, Chapter XXII: The 4th Division in Peacetime 1911-14*, Edmonds Papers III/7, LHCMA

68. Haig to Kiggell, 27 April 1911, Kiggell Papers I/11, LHCMA

transport and demonstrated a willingness to at least consider the use of new technology. Many feel that the leadership of the BEF during the Great War handicapped itself by its inability to come to grips with modern warfare and technology. While this view has begun to change, in at least one area the British Army can be seen to have been quite forward-looking - they embraced the idea of using motorised transport for many of their rear area services prior to the war. In early 1912, the Army sanctioned the change of its divisional ammunition columns (horsed) into divisional ammunition parks (motorised) - in actual fact, though, this represented the creation of a new layer of transport rather than the abolition of an old one.[69] By embracing a new technology before its use in war, some uncertainty must have occurred. In fact, given the difficulty that a much later British Army had in replacing its cavalry with armoured vehicles, it is remarkable that such a step took place in 1912. Unfortunately, while the arguments in favour of motorised transport were strong, the number of motorised vehicles available at the time was tiny.

In 1912, some elements of the Army had obviously come to the conclusion that motorised transport had advantages over the horse. In the main, the biggest advantage was speed - motorised transport opened up the possibility of more fully utilising the railhead.[70] How would an improvement in utilisation occur? The Army had created a new layer of transport and streamlined the old one. Brigade ammunition columns had been reduced in size by one-half, each now occupying only 550 yards of road; the other half of the old brigade transport had been grouped with the heavy battery columns into a new divisional ammunition column, still horsed; and the new divisional ammunition parks, motorised, had been placed, for the time being, under the control of the Inspector-General of Communications 'who will retain them in suitable positions in the

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69. H De Pree, 'The Supply of Ammunition and Motor Transport,' *JRUSI*, Volume LVI, 1912, 1149, 1150.

70. Ibid., 1149.

rear, till he receives instructions from general headquarters to push them up into touch with divisional ammunition columns.'[71] The key point is that the motorised parks could, with comparative quickness, link the divisional ammunition columns to the railheads much better than the old system where the extra layer did not exist. The potential problem came in two areas - the IGC and extra handling. First, the parks should have been under the control of the Quartermaster-General (QMG), not the IGC. Secondly, the process of loading and unloading artillery ammunition is heavy work, and the new system added one more load-unload process. However, it had been noted that:

> With a sufficiently liberal supply of ammunition on the railway, and a good system of rapidly transporting it to the firing line, we may in the future hope to be able to use our quick-firing guns to their full capacity. The importance of this can hardly be overrated, when we remember that *the power of artillery is more truly judged by the number of shell that it is able to fire than by the number of its guns.*[72]

While a great deal of work remained to be done, at least some elements of the Army (in this case a Major in the Field Artillery) had seen the power of motorised transport. In a final twist of irony, the matter had not been conclusively settled, even after the war, and an argument in favour of abolishing horse transport in rear areas had to be very delicately put.[73]

While it took time for motorised transport to replace the horse, the railway had been around for a considerable length of time and so one might expect officers to better understand the use of railways to move troops. Although some officers had seen the operational significance of fire-power and motorised transport, a number of first-rate officers, such as Frederick (Ivor) Maxse, often did not fully grasp some of the difficulties of the equally important administrative staff work. In a 1910 staff ride, for

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71. Ibid., 1150.

72. Ibid., 1149. (No emphasis in original)

73. O W White, 'The Abolition of Horse Transport in the Administrative Services,' *JRUSI*, Volume LXVI, 1921, 49-80.

example, Maxse drew up a train movement table calling for 103 trains, over a two day period, to move one division and one cavalry brigade from Aldershot to Ipswich via Colchester. While obviously pulled together using accepted scales, a number of valid criticisms came to light in the comments on the paper by Archibald Montgomery. Montgomery felt that the rate of train movement could not be sustained over the lines chosen. 103 trains comprised some thirteen miles of rolling stock, and he wondered where it might be put. In other words, where did Maxse plan to hold the stock in preparation for use? Further, some three hours would be required for the engines to build steam, imposing another time delay. Additionally, the average speed of twenty-five miles per hour could be maintained only in ideal circumstances, since the engines would require water, and civilian traffic would have to be held up. Finally, Montgomery felt that Maxse did not fully understand the difficulties involved in loading trains. Montgomery suggested that two routes would be needed for the movement to occur in two days.[74] Clearly Maxse, who would become one of the outstanding commanders and troops trainers of the Great War, had some difficulty with administrative staff work. It must be admitted, however, that he followed approved methods in drawing his plan up, and the critic, who later served on the Directing Staff at Quetta, became one of the outstanding MGGS's (Major-General, General Staff) of the Great War, and served as Commandant at Camberley after the war. Maxse's plans tended to exhibit his personality. For example, in 1912, on another staff tour, General Lomax felt him to 'have been optimistic' in his estimate of the time it would take for his force to concentrate in the projected area of fighting (Wales in this case).[75] Finally, to be fair, Maxse would have had an administrative staff to carry out the planning had he

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74. *Staff Ride, 9 March 1910* (with notes appended by AAM - A A Montgomery), Maxse Papers 69/53/1 - Files 2, Imperial War Museum: hereafter IWM

75. Lomax to Maxse, n.d., regarding 1912 Staff Tour, Maxse Papers 69/53/5 - File 8, IWM

been a divisional commander, and one hopes that he would have listened to and respected the opinions of that staff if they told him something could not be done.

Ultimately, the influence of the Staff College on British administration during the Great War proved paradoxical. On the one hand, as will be seen, Robertson and some other Staff College alumni exerted an enormous influence on the BEF's administrative framework. On the other hand, the Staff College produced relatively few graduates and a great many of these went to operations or command positions. It would appear, as will be illustrated, that the growth of professionalism in the army, combined with an inherent pragmatism, had a far greater impact on the war than the Staff College. Given the nature of the Staff College - really a War School - and the regimental system - closed and prone to make officers think small - the BEF was decidedly *not* ready in August 1914 for the task of administering the war to which they had been committed. However, short of having seconded large numbers of officers to Harrod's, the Army and Navy Stores, or large British railways such as Midland, Great Northern, Great Central and others, the Army had nothing in the way of pre-war training that would have provided adequate preparation. Indeed, this would have provided the best way for the Army to train its future administrators since it might have got them used to moving large quantities of goods around Britain or around the world to a schedule made more demanding by the bottom line - slow delivery lost customers and money while timely delivery kept them. Prepared, or not, the BEF had little time to learn, and, as will be seen, they would benefit from a form of secondment to the large firms listed above, when they began to tap into those firms for temporary officers.

Chapter 2

War Plans and Reality:

The BEF and the Commitment to a Continental War

In its opening stages, the new war in Europe gave little indication of just how different it would be from prior wars. As a result, the plans of the combatants are subject to considerable criticism because none had foreseen how the war would take shape. From a British perspective, it became apparent early on that they could not treat the war as an extension of colonial conflict. Growth would have to occur because Robertson's predictions of 1906 proved hopelessly optimistic, and artillery would be vitally important, as the BEF found out in August. In the encounter battles of August and September the BEF's administration did not find itself unduly taxed by the task of supplying their relatively tiny force in France. By December, after trench warfare had begun in earnest, however, this began to change. Having been committed by Whitehall to a Continental War, the administrators found that while they could move the necessary supplies forward, those supplies did not always arrive from Britain. Indeed, before the year was out, the BEF had begun to suffer from shortages brought about by inadequate production in Britain, and the situation only worsened as the war progressed.

That the BEF would suffer ammunition problems is, in hindsight, quite obvious. A combination of factors prior to, and in the immediate aftermath of, the declaration of war ensured this. First, and most crippling, had been a pre-war emphasis on reducing the Army's budget each year which left it short on man-power and the material of war, heavy artillery in particular. As a result, it has been suggested that the civil-military responsibility for preparing the Army for war had been abrogated.[1] In spite of later criticism, the Army could do little to prepare for war on the

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1. Bidwell and Graham, *Fire-Power*, 48-9.

continent in the pre-war years given its lack of Treasury support. The second factor is tied up with perceptions of war in August 1914. Britain had no pre-existing economic or industrial plans in case of war, and the government made no effort to mobilise the economy for the war.[2] This resulted from three preconceptions and traditions. First, Britain had a historic predilection for 'muddling through;' secondly, most people believed that the war would be short; and thirdly, Britain refused to come to grips with the idea that they would field a continental army in this war.[3] These reasons and pre-conceived notions meant that Britain would see no benefit of economies of scale in war production for more than a year. Further compounding the problem, the move to a mass army in 1915, just as the economy began to gear itself up, removed productive labour from the work force. This labour drain stifled the munitions industry just as it began to become clear that the war would require massive quantities of heavy shell and high explosive rather than the field guns the force had at the outbreak of war.[4] The problems of a shell shortage began to be seen soon after the BEF's arrival in France, and augured ill for the future.

In August 1914, the German Army attempted to fulfil the mandate of their only war plan - the vaunted but fatally flawed Schlieffen Plan - and knock France out of the

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2. To be fair, there was little about the British experience in this that differed from the rest of Europe. The problem came in that the continental powers, by virtue of their larger peace-time standing armies which had to be supplied before the war, possessed much better inherent economies of scale in production than did the British whose economy was only prepared for a small army.

3. Trevor Wilson, *The Myriad Faces of War: Britain and the Great War, 1914-1918* (Cambridge: Polity Press, 1986), 215.

4. Ibid., 217.

war with a swift blow through Belgium.[5] This burst the bubble of isolationist opinion in Britain that held the coming conflict in Europe to be 'a squabble between great powers in which no worthy issue was involved.' The guarantee of Belgium's neutrality made the prior century by Britain, France and Prussia meant that, in British eyes, a worthy issue had come to the fore. The German attempt to trample the independence of western Europe drove Liberals, Labour, and even some Irish Nationalists together in the belief that Germany 'must be stopped at all costs - even the cost of involvement in a terrible war.' Even so, some doubt existed that Britain would go to war, for had the German High Command's war plans called for its armies to move through south-eastern Belgium without taking the war to that country, the Asquith government might have stayed out. However:

> The actions of Germany on 3 and 4 August brought the Liberal Cabinet's indecision abruptly to an end. Confronted with the cynical brutality of the German ultimatum to Belgium, the precipitate movement of massed German troops towards the Liège forts holding the Meuse, and the deeply felt plea for aid from the Belgian monarch, the British Cabinet ceased to have doubts about the nature of this war.[6]

On 4 August, the British Government ordered the mobilisation of its army and, at meetings over the course of the next two days, fixed the composition of the BEF at four infantry divisions plus a division of cavalry. Though the pre-war plans allowed for a somewhat larger force of six divisions plus the cavalry, the fear of completely denuding

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5. See Gunther E Rothenberg, 'Moltke, Schlieffen, and the Doctrine of Strategic Envelopment' in Paret, *Makers of Modern Strategy*, 296-325 for a look at the historical development of the Schlieffen Plan, particularly 315-9 and 320-4 for an astute assessment of the younger Moltke and his influence on the Schlieffen Plan. Martin van Creveld, *Supplying War: Logistics from Wallenstein to Patton* (Cambridge: Cambridge University Press, 1977), chapter four, especially 113-22 gives a good analysis of the logistic failings inherent in the Plan.

6. Wilson, *Myriad Faces of War* (Cambridge: Polity Press, 1986), 35. The preceding two quotations are taken from page 25. The first three chapters of this work offer a concise and insightful view of Britain's move from peace to war in July and August 1914. For more in-depth views of the coming of the war, see Robert K Massie, *Dreadnought: Britain, Germany and the Coming of the Great War* (New York: Ballantine Books, 1991), Zara Steiner, *Britain and the Origins of the First World War* (New York: St Martin's Press, 1977) and A J P Taylor, *The Struggle for Mastery in Europe, 1848-1918* (Oxford 1954).

home defense led to the smaller initial commitment.[7] Until the government decided to commit the BEF, however, no formed British Army, in the continental sense, existed. Rather, the BEF was a paper tiger to be created as and when needed, but not kept together in peacetime.

In essence, General Headquarters (GHQ), the command and control institution for the BEF, only came into existence on 4 August when the government decided to send them to France. Until war actually broke out GHQ had only been a theoretical construct, having a temporary existence for a short period every year when its officers met to hold exercises.[8] Further, with the exception of the veterinary sections, four infantry battalions for line of communication duties, two railway companies, and the works company Royal Engineers (RE), the administrative portion of the BEF, its 'A' line of communications, did not exist.[9] Even more than GHQ, which drew on existing units and got the opportunity to exercise every year, the administrative services remained a paper theory until mobilisation. Only then did the officers and men who made up the vast majority of the administrative services actually bring their units into existence. Despite this administrative handicap and in spite of the Bank Holiday on 3 August the mobilisation proceeded remarkably well. The War Office had, in the preceding four years, recognised the probability that they would send troops to France if a war occurred. As a result, they had drawn up extensive railway and mobilisation schedules in case this occurred, and created a far better liaison with British railway

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7. WO 33/606, *Expeditionary Force Tables, November 1912*: as indicated herein, the full size of the BEF that could have been sent on short notice comprised six infantry divisions, one cavalry division, 'army troops,' and the 'A' line of communications units. The latter refers to those units that the War Office required to create and maintain one (the 'A') line of communications for the expeditionary force it sent to France. See also, *BOH(1914, 1)*, 29-30.

8. Bidwell and Graham, *Fire-Power*, 42.

9. WO 33/573, *Expeditionary Force Tables, 1911* 21, 22, 26: This document is a list of the make-up of the Force and a clear illustration of the lack of administrative units except as paper constructs.

companies to ensure a smooth mobilisation, and within ten days of the decision to go to war the BEF had begun forming up near Le Cateau.[10] By 22 August, some 160,000 regular British soldiers made up an Expeditionary Force of five divisions and their support units in France and Belgium - as large an initial overseas commitment as Britain had ever been required to maintain.[11]

Officers rushed wholeheartedly to the Expeditionary Force as soon as the war broke out.[12] This had a profound impact on the Force, as within a very short time the BEF became overstaffed with staff officers too old or experienced for their posts. Indeed, Colonel James Edmonds (later the British official historian) felt himself to be too old, at 53 years, for his position on the staff of 4 Division during active operations.[13] Given the widespread belief that the war would be short, and the need for professional officers to fulfil the ultimate dictates of their career, most of the experienced officers and staff officers in Britain went to France. A great many of these

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10. See Edwin A Pratt, *British Railways and the Great War: Organisation, Efforts, Difficulties and Achievements* (London: Selwyn and Blount, 1921, two volumes), 112 for the closer liaison and for the moving of the troops between 9 and 17 August. He illustrates the system by which one British company, in this case the London and South Western Railway, was chosen as the 'Secretary Company' who were to be told what the War Office wanted. The London and South Western then arranged for the moves with the other British railway firms and saw that the troops reached Southampton on schedule (112-9, passim). Finally, each of the other companies had a special staff, made up from their own clerks, who saw to military movements on the outbreak of war (123).

11. Correlli Barnett, *Britain and Her Army 1509 - 1970* (London 1970). See 347 for Boer War figures (450,000 troops of which 250,000 were British) which are the only ones to exceed August 1914. However, this was not the initial commitment to South Africa. Further, as Barnet says on 377, 1,186,337 volunteers had joined up in Britain by the end of 1914.

12. Bond, *Victorian Army*, 299.

13. *Edmonds Memoirs, Chapter XXIII: War: August 1914*, 463-4. Edmonds Papers III/8, LHCMA. The nomenclature used in Edmonds's Official History, *Military Operations: France and Belgium*, shall be used throughout. Armies will be spelled out in full, Corps denoted by Roman numeral, Divisions by number, and Dominion formations, where necessary, with the addition of the nationality. For example: Third Army, XVIII Corps, 4 Division, Canadian Corps, 3 Australian Division.

officers, some of whom were *psc* and better trained for command positions and operations staffs than for administrative positions ended up, as a result, in administration. This left an entirely inadequate cadre of officers for the staffing of the New Armies which later followed.[14] It also left the War Office itself woefully short of trained and experienced officers. Officers forced to remain behind through bad luck or insufficient influence held important positions, often filling in for more experienced men who had gone to France. For example, Colonel George Macdonough left his Intelligence post at the War Office to go to France as chief of Intelligence there, but while he was one of a number qualified for the post in France, he was the best qualified man in the army for his far more important War Office post.[15] Douglas Haig, the General Officer Commanding (GOC) I Corps and later the Force's Commander-in-Chief, felt that more officers should have been left behind.[16] It might be said that the BEF that went to France in 1914 as the best trained and most overstaffed army ever to leave British shores because of the desire of officers to see combat. In France the administrators had to learn on the job, as their training had been geared towards operations, and in Britain, the War Office also had to make do with officers learning on the job.

The BEF, as mentioned, arrived in France relatively quickly after mobilisation; its administrative officers also arrived quickly which illustrates the effectiveness of the mobilisation. Robertson was in France as of 12 August, and Macready by the 14th.

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14. *Edmonds Memoirs, Chapter XXIII: War: August 1914*, 463-4. Edmonds Papers III/8, LHCMA. Cf also Bond, *Victorian Army*, 299-300.

15. C E Callwell, *Experiences of a Dug-Out, 1914-1918* (New York: E P Dutton & Company, nd), 14.

16. WO 256/1, *Diary of Field Marshal the Earl Haig*, 5 August 1914. Hereafter, *Haig, Diary* with appropriate date and WO 256 number, for example: WO 256/5, *Haig, Diary*, 10 September 1915

Their headquarters' staffs arrived over the course of the next few days.[17] The Expeditionary Force itself arrived in France between 12 and 17 August, concentrating between Maubeuge and Le Cateau by 20 August.[18] In accordance with French plans for the offensive, the BEF began advancing almost immediately after completing the concentration. Having advanced fifteen to thirty miles, the BEF found itself on 21 August holding a position on the Mons to Condé Canal just to the north of the Belgian town of Mons. The general European belief in the power of attack, and that wars were not won by defending, meant that the Anglo-French Armies advanced towards the Germans with the intent of seizing the initiative and putting the Germans on the defensive. As a result, the British portion of the Anglo-French advance into Belgium (some 75,000 strong) ran headlong into significant elements (some 200,000 men) of the German First Army fulfilling the mandates of their only war plan.[19]

The efficiency with which the BEF moved overseas is quite astonishing, especially when the flaws in the regulations under which it operated once it arrived are considered. The *Field Service Regulations* of 1909, reprinted with minor revisions in 1912 and 1914, governed the BEF's organization on active operations in 1914. Part I, which dealt with tactics and training, was significantly larger than Part II, which set out the means by which British field armies would be organized and administered - likely the result of anti-administrative snobbery on the part of the compilers. With hindsight, this augured ill for the BEF, given the difficulties they had in the areas covered by Part

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17. WO 95/25, *AG Branch, War Diary* and WO 95/27, *QMG Branch, War Diary*: both August 1914

18. *BOH(1914, 1)*, 48-50.

19. Wilson, *Myriad Faces of War*, 41.

I of the regulations.[20] On the other hand, while there were a number of problems with the plans for administering the BEF as set out in Part II, the document also had some inherent strengths.

The greatest strength of the British system of organization and administration lay in its inherent simplicity. Early on, the regulations stated:

> So diverse are the conditions with which the British Army may be called upon to deal that it is impossible to design for it a system of organization applicable, without modification, to every campaign. But, although the strength and composition of the forces in the field must vary according to the enemy to be encountered, and the nature of the prospective theatre of operations, yet the general principles which govern their organization remain practically the same.[21]

This passage raised a valid and sensible point, for a set of regulations drawn up in 1909 could not have predicted the scope of Britain's next war. Indeed, given the extent of the Empire and the large number of potential foes that might be faced, general principles provided a very sound basis for field regulations. Looking back in 1922, Lieutenant-General Sir Travers E Clarke (the QMG in 1918) stated:

> Unlike Continental nations, we had to be ready to operate in any part of the world, and whatever administrative system we devised, it had to be a system which was sufficiently elastic to meet practically the requirements of every possible theatre of operations.[22]

Specifics could be set out in contingency plans, or decided when war became unavoidable, but while at peace, the War Office required flexibility. The *Field Service*

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20. For a look at the difficulties the BEF encountered in adapting to modern, industrial war, the best studies are Bidwell and Graham's *Fire-Power* (1982), Travers's *The Killing Ground* (1987), and Prior and Wilson's *Command on the Western Front: The Military Career of Sir Henry Rawlinson, 1914-1918* (Oxford 1992), all of which are superb.

21. *Field Service Regulations Part II, Organization and Administration 1909* (London: His Majesty's Stationery Office, 1909), 23. Hereafter *Field Service Regulations (II, 1909)*. The 1912 and later reprints will be denoted with the reprint date; for example, *Field Service Regulations (II, 1912)*.

22. Lieutenant-General Travers Clarke in a discussion following a lecture by Lieutenant-General Sir H S G Miles on 1 November 1922 at the Royal United Services Institute. The paper and discussion were published as: Lieutenant-General Sir H S G Miles, 'Army Administration,' *Journal of the Royal United Services Institute*. Volume 68, 1923, 38.

Regulations, Part II, therefore, reinforced the pragmatism inherent in the British officer, simultaneously holding back innovation, providing officers with the flexibility to cope with service in a diverse set of environments, and laying the groundwork for administrative success.

The flexibility offered by the *Field Service Regulations, Part II* allowed the British to outpace the Germans in war planning, for in addition to being able to fight anywhere in the world, the War Office had a full mobilization plan in case of war with Germany. Evidence of such foresight seems particularly surprising given the poor reputation of the British generalship in the Great War amongst historians and the general public since the 1930s. The German government, on the other hand, found themselves hamstrung by the fact that their army had only one war plan, that devised by Alfred von Schlieffen in 1905. While the relative merits and flaws of the Schlieffen Plan need not be debated, the plan badly constrained the German High Command's strategic options, forcing them to strike at Paris through Belgium once Russia began to mobilize. This contrasts starkly with the apparent lack of sophistication in British 'war plans.' British naval superiority allowed the War Office to go to war with less fully detailed plans than any continental power to whom a significant time-lag between declaration of war and implementation of a plan could very well prove fatal. Additionally, the small size of the British Army meant that mobilisation could proceed rapidly once it began. Essentially, the absence of sophisticated British war plans allowed by the strength of the Royal Navy permitted far more political and strategic flexibility at the War Office and Whitehall than in the corridors of power on the continent.

The *Field Service Regulations, Part II*, published most recently in 1912 with revisions in 1914, set out four basic principles for British field forces that together provided a sound, if unimaginative, underpinning for British operations. First and foremost, the idea of unity of control and effort made the Commander-in-Chief (C-in-

C) the ultimate and supreme British authority in the field.[23] The second general principle called for extensive subdivision of the administrative organization combined with effective central control, resulting in one senior administrative officer managing a large number of subordinates in various Departments. Thirdly, the manual's authors followed the Clausewitzian belief that the goal of military force was to defeat the enemy's field armies. The administrative infrastructure had to provide the fighting troops with the means to this end. Finally, the regulations described the general concept of a hierarchical command and control structure.[24] Although a basically sound set of general principles for the creation and control of a field army, these principles contained nothing profound or innovative as laid out. Further, the specifics of the regulations did not have the same strengths.

Experience in the field exposed weaknesses in the *Field Service Regulations, Part II* because the regulations split administrative and command duties in a way that created a duality at GHQ where operations and administrative officers seldom interacted. The Expeditionary Force's executive command officers had clearly delineated duties. For example, the Regulations singled out the C-in-C as the man ultimately responsible for the success or failure of the military operations carried out by the Force, and rightly so. His responsibility, however, did not extend to the business of actually supplying the needs of his army. The C-in-C and other subordinate commanders had been relieved of the direct responsibility for such administrative

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23. The British at various times in the War referred to the BEF's commanding officer as the Commander-in-Chief (C-in-C), the General Officer Commanding-in-Chief (GOC-in-C), the Field Marshal Commanding-in-Chief (FMC-in-C), or simply as 'the Chief.' Except in the case of direct quotes in which the other forms are used, the abbreviation C-in-C will be used throughout to refer to Sir John French, then Sir Douglas Haig.

24. *Field Service Regulations (II, 1909)*, 22-24. This was unchanged in the 1912 and 1914 reprints.

details, unless they chose to exercise their authority and make those decisions.[25] In essence; then, the regulations created a fairly sensible division of duties and responsibilities between command and administration in the Expeditionary Force. Administrative officers were to be left largely to go about their business, unless problems with efficiency emerged. Only then should command officers meddle in administrative work; but they became responsible for the results. While sensible in theory, this had the potential to create two serious problems. First, such a set-up encouraged commanders to steer clear of administrative issues until a crisis had brewed and, even after a crisis occurred, they might be tempted to stay uninvolved for fear of becoming responsible for whatever mess had been created. This might create the second potential problem: a headquarters with a dual or split nature - operations staff and commanders having little appreciation of administrative challenges, but having all of the practical power. The inherent clarity of the regulations, however, remained, because, power or not, and even with the potential problems laid out above, administrative officers knew exactly where they stood in the chain of command and how it had been laid out.

At this point the regulations' simplicity broke down. The creation of the post of Inspector General of Communications (IGC) threw considerable confusion into the mix because he was not part of the 'Staff.' British regulations delineated the 'Staff' as those officers trained in staff duties and working on one of the three parts of the Staff - General Staff Branch, Adjutant-General's Branch, or Quartermaster-General's Branch.[26] Officers attached to the General Staff (G) Branch and commanded by the Chief of the General Staff (CGS), first among equals, were responsible for the

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25. Ibid., 27. The 1912 reprint made the C-in-C the supreme *land* commander, rather than supreme commander. Also, the section describing the limits of command responsibility (specifically supply) was better written and much clearer.

26. Ibid., 36.

planning and conduct of military operations and intelligence in the theatre of operations of the field force. Those attached to the Adjutant-General (A) Branch came under command of the Adjutant-General (AG) and dealt primarily with questions of discipline, military law, personnel, casualties, and medical and sanitary services. Finally, the Quartermaster (Q) Branch personnel were commanded by the Quartermaster-General (QMG) of the Expeditionary Force and dealt with the supplying of the army in the field.[27]

The IGC and his direct subordinate line of communications units were not part of this 'Staff,' rather they formed a pseudo-staff of their own,[28] even though GHQ would have functioned better had they been part of the 'Staff.' The IGC's mandate meant he controlled and coordinated all traffic on the line of communications up to and including the rendezvous points with fighting formations - in effect, beyond the railheads. He also commanded all line of communications units except for defense troops, was responsible for creating and running bases as the C-in-C demanded, for forwarding all field force requirements and for deciding how to send such supplies forward.[29] While the IGC made logical sense in its concept - the idea of a line of communications commander undistracted by operational concerns making some sense - the method used to define his position left a great deal to be desired because he needed to be part of the General Staff of GHQ in order to properly control the line of communications and so that his relationship with the CGS, QMG and AG was made clear. This did not occur, so the IGC caused problems by his very existence.

Administration and supply of an army in the field can be managed in two main

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27. Ibid., 36-39.

28. This is very clear in *BOH(1914, 1)* on 471-484, the Order of Battle of the BEF. While the Directors of Administrative Services and line of communications units are listed, the IGC is not mentioned.

29. *Field Service Regulations (II, 1909)*, 29. *Field Service Regulations (II, 1912)*, 32-33.

ways and the IGC did not really fit either. It can either be placed under the control of the General Staff in theatre ('pulled'), or it can be 'command-managed' by taking the rear areas and putting them under an administrative commander ('pushed').[30] In the latter case, the commander must be under the direct command of the Commander-in-Chief in theatre. However, the BEF's plans originally created a mix of these systems, in effect creating a push-pull conflict by arranging for combat formations and the QMG to pull supplies while simultaneously arranging for the IGC to push them forward. The BEF needed one or the other, or a system whereby the basics got pushed forward and extra requirements could be pulled as needed. Given the fledgling nature of the British General Staff in 1914, however, the mixed-up system that resulted is not a surprise. The situation in France required an officer to act as the commander of the line of communications, but he had to work for the QMG. Instead, the IGC became, in effect, a fourth senior staff officer, on par with the CGS, the AG and the QMG, but without the recognition that he was a part of the General Staff, and part of a complex push-pull supply system bound to cause difficulty as the BEF grew.

The CGS, AG, and QMG exercised their office through a number of senior subordinates titled either Directors or Heads of Administrative Services but the IGC's existence greatly complicated this. The Directors of Army Signals, Medical Services, Supplies and Transport had their offices at GHQ with the rest on the line of communications. Of the various Directorates, Railways, Remounts, Works, Veterinary Services, Postal Services, and Ordnance generally received instructions from the IGC and had their offices at his headquarters. However, these six directors were also directly under the command of the QMG at GHQ; differences between the QMG and IGC were a potential nightmare. (Charts 2:1, and 2:2 illustrate both the functional (or dysfunctional) control of Directors by the IGC and QMG, and a potentially more

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30. Bidwell and Graham, *Coalitions, Politicians & Generals*, 29.

effective set-up had the IGC been part of the General Staff.)[31]

During active operations, the IGC had the responsibility for keeping track of the daily stocks and supplies situation. He accomplished this by working with the various Directors of Services, who actually controlled the stocks in theatre. The Directors placed orders for supplies with the Army Council as needed, but only after approval by their superior - the QMG, not the IGC. The Army Council representative arranged for the orders to be filled and had them shipped to the bases in France, where they were received by the Directors on the line of communications. The IGC was then responsible for sending these up to the railheads, subject to the requirements of the QMG.[32]

While this might appear reasonable on paper, it created grave potential problems in practice. If the IGC and QMG had different views or a conflict of interest or personality, disaster could easily result. In this case, the ultimate arbiter, the C-in-C, would undoubtedly have been greatly troubled if two of his senior officers (those responsible for maintaining his army's supply situation) were squabbling. It could lead to the failure, at least temporarily, of the whole supply system. Had Sir John French not had three consummate professionals as his QMG, AG and IGC, he might have had a disaster on his hands. As it was, their good sense and, it must be supposed, common belief in beating the Germans, meant difficulties were minimised. In spite of the flaws in the *Field Service Regulations, Part II*, their professionalism let them work towards solving the problems.

Only seven months prior to the outbreak of the war, the problem of the IGC's vague responsibilities had been seen and raised at a Conference of Staff Officers at the Royal Military College, held from the 12th to 15th of January, but no solution had been

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31. All Charts, graphs, figure and maps will be found at the end of the chapter to which they refer.

32. *Field Service Regulations (II, 1909)*, 50.

forthcoming, in large measure because of the conservatism of influential senior officers. The officers who raised the issue saw that the BEF, as constituted in the war establishments, had no 'central coordinating administrative authority' to control its operations and administration during war time. Some of the officers present noted the difficulties inherent in having three officers in charge of administrative duties (the QMG, AG and IGC) and that, despite his importance, the IGC had little ability to make on the spot decisions and very limited powers. Although this came about because he was not part of the General Staff, this point did not get raised. At the same time, the IGC was likely to be at least the equal in rank and seniority of either the QMG or AG, and had many of the same Directors responsible to him and simultaneously responsible to the others. These officers, and particularly Major-General Sir Neville Macready (the BEF's AG from 1914 to 1916, when he went to the War Office) feared that the system, as laid out in the *Field Service Regulations*, was untried and unclear; that '...as the regulations at present stand, the position is indefinite and unsatisfactory.'[33] With divided responsibility it is impossible to expect good results either in peace or war. Macready commented:

> unless the Inspector-General of Communications is directly under the Quartermaster-General the Directors may find themselves in the unenviable position of having to serve two masters.[34]

In this, he proved prescient and had a valid solution (see Chart 2:3) that required subordinating the IGC to the QMG. Not all the officers at the conference agreed with his warning or solution. In the end, inertia played its role because too many officers had little interest in administrative matters, and because, without concrete evidence in the form of a failing system, the generally conservative hierarchy proved reluctant to make changes. Sir John French (in the Chair) decided the issue by stating '...at present

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33. WO 107/64, *Report of a Conference of Staff Officers at the Royal Military College, 12th to 15th January, 1914*, 30, 33: hereafter *Staff Officer Conference*

34. *Staff Officer Conference*, 37

I am not convinced that any change in the Regulations is necessary, but the question will receive careful consideration.'[35] Had the decision been referred to an officer with experience in administrative matters, or, better still, to an officer who had worked on a line of communications in wartime, or had exercises been conducted that were designed to examine the line of communications in wartime, a change likely would have occurred. Exercises, however, were designed to challenge commanders and their operations staffs, not administrators, the change did not occur and, as a result, Sir John's BEF blundered off to war as ill-prepared to administer its efforts as all European armies were mentally unprepared for the battlefields of the war to come. For example, the War Office appointed Brigadier-General A M Stuart as Director of Works in 1914 with an unclear mandate because his direct commander was the QMG, but his practical commander the IGC, since he occupied space at the latter's headquarters. The problems of the IGC's ill-defined role, and to a degree the general problems arising from the establishment of an Expeditionary Force for the continent - something Britain had not done since the mid-nineteenth century - caused such unclear mandates.[36] GHQ could not easily solve the problem of divided control.

As early as 24 August, Macready began having difficulties working with the system as designed by the regulations but succeeded in overcoming them by adopting the professional, pragmatic approach that had been inculcated in part at Camberley and in part because of the professionalisation of the British officer in the early twentieth century. For example, he expressed concern with the two-part problem of the evacuation of wounded off the battlefield - at the time one of his primary functions. The first part involved the questions of how close to the front the field hospitals should be placed and the function of field ambulances. Macready solved these fairly easily

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35. Ibid., 30, 33, 37, 93

36. Spencer Memoir, *Some Private Recollections of a Base Wallah, 1914-1919*, 37-8, Stuart Papers 7, LHCMA. See also *BOH(1914, 1)*, 472.

when he wrote General Robb (the IGC), saying that he felt the field ambulances needed to be more responsible for initial treatment so that the hospitals could be placed further from the front. The second problem was that, at that period of the war, Macready personally directed the movement of medical personnel and trains, but the IGC actually moved them, which left the AG uncertain of where the medical personnel might be located at a time when he needed to send them to places on short notice, as dictated by the battle. Macready wrote to Robb:

> Theoretically I am aware that your jurisdiction extends to rendezvous points, but I have always held, and present experience confirms me in the idea, that in the area immediately in the rear of the troops it will be better to advise the officer of GHQ concerned before any action is taken, in case we may have information that possibly has not reached you.[37]

Rather than aggravating the issue, he explained that his more timely receipt of information placed him in a better position than Robb to make decisions and suggested that procedures be modified to allow this. Robb, a professional officer, though not a Camberley alumnus, considered Macready's argument and agreed. As a result, the problem of wounded evacuation largely passed over to the AG, such that in September he personally controlled one ambulance train per day to be sent to the point of his choosing - a substantial proportion given the size of the BEF at the time.[38]

The importance of such a pragmatic approach, instilled in part by training at Camberley and in part by the ethos of the British officer, becomes particularly clear in the case of Major-General Sir William Robertson. Since he controlled more Directors, Robertson, the QMG, faced potentially considerable overlap problems. The demands of twentieth century warfare exacerbated these by requiring more of everything in

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37. WO 95/25, *AG Branch, War Diary, August 1914*, Macready to Robb, 24 August 1914

38. WO 95/25, *AG Branch, War Diary, September 1914*, 6 September order from Macready; WO 95/25, *AG Branch, War Diary*, 5 October and 6 October 1914 indicate a daily total of three ambulance trains, while 14 October 1914 indicates that the BEF had eight ambulance trains available in total and if necessary. In September, when Macready issued the order, one to two ambulance trains per day sufficed for the BEF's needs.

shorter periods of time than previously. No army could fully cope with these demands, not even the Russians who had practical experience of twentieth century warfare. European armies had received hints from the Russo-Japanese War that the fighting would be of an unprecedented intensity, therefore, Robertson would have to ensure that vast quantities of material reached the troops, thus increasing the likelihood of conflict with the IGC. Furthermore, the British had first-hand experience from the Boer War that might have indicated at least a moderately long war. In spite of this, BEF based its supply plans on a short war concept. This rapidly changed. In spite of the well known high rates of fire of both modern rifles and quick-firing artillery, the British experiences before the war left them completely unprepared for the scale of expenditure in 1914. As a result, the QMG and IGC had to move an inadequate amount of material to troops and determine some way to assess priorities. Yet again, this provided a potential source of conflict.

The solution came because of the nature of the QMG and IGC. As Chart 2:4 illustrates, Robb agreed to a pseudo-subordination to Robertson (and Macready) on questions that affected command of the various Directors from the railheads forward, without removing himself from the direct authority of the C-in-C.[39] This pragmatic solution was far from ideal,[40] but it worked for the BEF as the first of many ad hoc 'fixes' to the less than adequate sections of *Field Service Regulations, Part II*. The problems of overlap between QMG and IGC were sorted out in this ad hoc fashion just in time as the QMG had, almost immediately, to begin to deal with a far more challenging difficulty - the beginning of a period of rapid and unprecedented growth in

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39. WO 95/3950, *IGC, War Diary, November 1914*, Entry 502: this indicates that the system as laid out in the *Field Service Regulations* broke down as soon as the fighting had begun, so the new and more satisfactory system had been developed as a result.

40. Cf Robertson to Cowans, 3 December 1914, Robertson Papers I/7/30, LHCMA where Robertson writes that he had a word with Macready who 'is a little inclined to run his part of the show too much in disregard to the IGC, and he cannot and ought not to disregard him.'

the size of the BEF for which he lacked preparation and guidelines.

. . . . . Robertson also benefitted from the hands-off approach adopted by General Sir John Cowans, the Quartermaster-General of the Forces, and Robertson's administrative superior. Cowans allowed the QMG in France and his successors to do their jobs without interference. Cowans concentrated on filling the requirements from the field and left the distribution in the field to the men on the scene.[41] Cowans was a great believer in both feeding the soldier and in doing it economically. As such, he was an ideal man for the job of dealing with both soldiers and politicians in London. No amount of foresight, however, had prepared the BEF and the British Army for the consequences of the battles.

The BEF believed in and followed an offensive-based doctrine as did all European armies of the period.[42] This meant that the demand for ammunition would be high, and it also made the British Army extremely vulnerable to modern war because of its small initial size - it lacked trained reserves of manpower and faced the prospect of being very roughly handled by the Germans should they decide to concentrate against it. Although Britain possessed tremendous potential for the enormous army needed on the continent, in 1914 they suffered from the paradox of only being able to field a small standing army, and yet having that small army allowed for the strategic flexibility previously discussed. In July 1914, the whole of the British land forces the world over might have just reached one million men, of whom only 129,000 were fully trained regular soldiers of seven to eight years enlistment. To this base of regulars could be added some 210,000 reservists who could be rapidly reacquainted with the skills of

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41. Desmond Chapman-Huston and Owen Rutter, *General Sir John Cowans: The Quartermaster-General of the Great War* (London: Hutchinson & Co, 1924), 53, 178.

42. See Stephen van Evera, 'The Cult of the Offensive in European War Planning,' *International Security*, Volume 9(1), Summer 1984.

war. Relatively poorly trained militia made up the remainder.[43] The potential for a theoretically vast Imperial army could not be entirely discounted (due to India's huge population alone), but the British Army of 1914 was laughably weak when set against the power of the French and German continental armies, and furthermore, it did not have the logistic base of those armies who had been preparing to fight each other for years.

A mere 80 trucks and tractors, 20 automobiles and 15 motorcycles provided the BEF's motorised logistic support, in spite of the pre-war sanction for motorised divisional ammunition parks. The bulk of the logistic support (to no great surprise) used four-footed transport. Furthermore, for a war on the continent, Britain had no control of railways. In 1914, water and rail transport remained by far the most economical and efficient means of moving large quantities of goods over anything but the smallest distances. Therefore, the BEF would have no choice but to make use of French and Belgian railways at the sufferance of those two countries.

Robertson's decision to remove the tactical control of railways from the IGC had streamlined some of the BEF's potential problems - Robertson told the IGC where he wanted the trains to go, and the IGC then arranged it[44] - but, control of the railways in France remained under French strategic direction. Given a small BEF, responsibility for the movement of British supplies did not prove troublesome for the French because the BEF's demands proved small, when set against the bigger picture of the total number of French troops in the field. The French had designed their railway control system to maintain very large field armies, and with the experience of the Franco-Prussian War in mind. What had resulted was the establishment of:

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43. *Notes on the Strength of the British Army in 1914 and 1918*, Edmonds Papers VI/3, LHCMA

44. Colonel M G Taylor, 'Land Transportation in the Late War,' a lecture presented at the Royal United Services Institute and published in the *JRUSI*, Volume LXVI, 1921, 703.

> a military hierarchy at all points where the technical control of railways was exercised, and [the use of] civil railway administration to the fullest possible extent under the general control of this military hierarchy. The two together formed combined committees exercising absolute power over railway operation.[45]

The French did not impose this system throughout France, however, only in the zone of armies. A similar system held for the ports, though they did not integrate it with railway control.[46] The French system did cause the BEF quite a lot of trouble during the initial concentration. This occurred because the BEF's force-structure, supply scales and whole supply system differed greatly from the French Army's. The Railway Transport Officers in the BEF worked with the Commissions de Gare, for example, and only later did the BEF create Railway Traffic Officers to work with the Commissions Regulatrice - the actual overseeing bodies.[47] Only 'the continuous use of expedients' allowed the BEF's administrative services to maintain the force in the first month.[48] Such expedients - ad hocism and pragmatism at work - became the story of British administration for the next year. As long as the BEF only boasted five divisions the French could easily cope with British railway needs, but the BEF could not be a French priority. The Quartermaster-General's Branch of the General Staff at GHQ immediately found itself stretched by the demands of caring for a rapidly advancing army, complicated by confused chains of command on the line of communication, and French control of railways.

GHQ coped largely because the army was still small, and because of the providential choice of Sir William Robertson as the QMG. The influence of individuals, such as Robertson, on a large organisation like the BEF is difficult to gauge. Some commanders, as Tim Travers has shown with Haig in *The Killing*

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45. Ibid., 701.
46. Ibid., 701.
47. Ibid., 703.
48. Ibid., 702.

Ground: The British Army, The Western Front and the Emergence of Modern Warfare, 1900-1918, can have an enormous impact on the workings of their headquarters. In Haig's case, this meant a form of mental paralysis brought on by fear.[49] In the case of others, such as Lieutenant-General Sir Arthur Currie (GOC, Canadian Corps 1917 - 1918) and Lieutenant-General Sir Frederick Maxse (GOC, 18 Division 1916, XVIII Corps 1917), it led to an atmosphere conducive to innovation. GHQ, however, was too large for the influence of the C-in-C to permeate the administrative services because of the lack of attention to them set out in the *Field Service Regulations*. The *Field Service Regulations* inhibited the C-in-C from meddling in administration, and as a result, he would have had less of a personal impact on those services than on the operations staff. This left the senior administrative commanders to affect their branches in a similar, though perhaps less profound, fashion to the C-in-C's influence on his operations staff. Given the force of Robertson's personality, this must have meant that his views were generally shared by his subordinates.

Robertson's appointment had been a lucky break for the BEF. As he later wrote:

> the Director of Military Training [Robertson] became, in war, Chief General Staff Officer of the home defence force, there seemed to be no chance when war broke out of my going to France. At the last moment, however, Grierson, ... was given the command of the Second Army Corps, and Murray, originally intended to be the Quartermaster-General of the Force, was selected to succeed him [as CGS]. The appointment of Quartermaster-General thus became vacant and [Sir Charles] Douglas was good enough to give it to me.[50]

Robertson was a very rare officer, as he had risen to his rank (ultimately Field Marshal) after entering the army as a private. Having refused commission on the grounds of financial insecurity, he had finally been commissioned in 1888.[51] In ensuing years, he

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49. Travers, *The Killing Ground*, 104-6.

50. Robertson, *From Private to Field-Marshal*, 195.

51. Ibid., 30-33 for the difficulties faced by potential officers lacking private means.

attended the Staff College, saw action overseas in both India and South Africa, and held the important pre-war post of Commandant of the Staff College. Robertson was not jealous of others and was an ideal staff officer - intelligent, loyal and practical. Further, Robertson had become 'a brilliant administrator and a professional soldier to his fingertips.'[52] These qualities were ideal for the QMG of an army that was about to enter the twentieth century.

The BEF first experienced modern continental warfare at the Battle of Mons. Intelligence and scouting by British aeroplanes and cavalry had disclosed by 22 August that the BEF was facing a large German force, but its true size was not known. What would later be called the Battle of Mons opened on 23 August with an engagement action reminiscent of earlier wars. The Germans, probing to discover enemy positions, came upon the British, were fired on, deployed and the battle was joined. Here, however, the similarities with prior wars ended, and the weakness of the cult of the offensive began to become clear. Concentrated aimed rifle fire from the British positions on the south side of the canal broke numerous German assaults, giving the stunned attackers the impression that each British soldier was armed with a machine gun.[53] Britain's professional army was showing the value of pre-war training and Imperial experience; they were also illustrating the intensity of modern warfare as they fired off ammunition at a profligate rate - a warning to the QMG of what might be forthcoming. Eventually, however, the weight of the German force was felt, and Sir John French ordered positions occupied which had been prepared behind Mons.[54] This ended the first day of the first British action of the war. It also marks, for practical purposes the beginning of the long and often tortuous tactical and operational evolution

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52. Bidwell and Graham, *Coalitions, Politicians & Generals*, 73.

53. *BOH(1914, 1)*, 71-95 for an account of the Battle of Mons and 80 for the mention of the intensity of British rifle fire.

54. For a detailed account of the Battles of early 1914 (Mons to the Aisne), see *BOH(1914, 1)*, passim.

that would place increasingly heavy demands on to the line of communications.

Late on the 23rd, GHQ finally received intelligence reports regarding the scale of the German force they were facing - roughly four corps. Though the BEF was fighting effectively, sheer weight of numbers would have told eventually and casualties would have reached unacceptable levels. In addition, French retirement on the BEF's flanks had left them vulnerable to envelopment and complete destruction, a situation which would have been intolerable in Britain, and which illustrated the comparative vulnerability of the BEF in continental warfare. A retirement of the BEF was called for and well carried out over the ensuing days.[55] This must have caused grave concern at GHQ, though Sir John's diaries do not indicate more than that it had been partially foreseen.

The change in plans necessitated by the weight of numbers the BEF faced meant that the QMG had to reconsider the set-up of the line of communications. Robertson had feared that retreat might be necessary and, to a degree, his training at Camberley but more importantly, his experience and practical nature required that he consider the possibility seriously. At roughly the same time that the BEF was preparing (unknowingly) to meet a large portion of the German First Army at Mons, Robertson had discussed a number of contingency plans for the supply of the BEF should the circumstances force such a retirement away from their line of communication.

Robertson later wrote:

> It was necessary that the Quartermaster-General's staff should examine the situation from every point of view, and introduce such elasticity into the supply arrangements as would promptly afford the Commander-in-Chief the greatest possible choice of action. In short, it should be prepared to meet any and every reasonable contingency, for no matter how skilful the plans of the Commander-in-Chief might be, they would almost certainly fail in execution if the troops were not properly fed and quartered, and kept supplied with ammunition.[56]

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55. Ibid., passim.

56. Robertson, *Private to Field-Marshal*, 205.

In this he proved very foresighted,[57] and thus showed himself to have been most pragmatic and professional. Robertson's professional responsibilities required him to try and anticipate the unexpected and do his best to prepare for it. He had done a good job in forecasting the chance of greater German strength, but had not anticipated the very heavy demands on the line of communications caused by the intensity of modern warfare.

Sir John French noted his pleasure with the arrangements that Robertson had set up for the running of Q Branch in his diary before the Battle of Mons.[58] This notice of administration is unusual in light of Sir John's notes during the Battles of Mons and Le Cateau, where he seems to have spent much of his time motoring about the rear areas. In fact, from the tone of his diary, one might say that Sir John left the control of the BEF in the hands of his CGS during the battles and that Haig, Smith-Dorrien and Allenby actually fought the battles with little higher direction.[59] In fact, Sir John's visits to the rear areas are, in part, symptomatic of the changing level of control on the battlefield - he was looking to personally control his force, when his position no longer allowed it.

This battle, in fact, is unusual in the extent to which the Corps Commanders had control over their formations. As the war progressed, the level of control exhibited at Mons and Le Cateau began to disappear from Corps headquarters and even divisional headquarters. Ultimately, higher direction could only be exercised prior to battle by Corps and often Divisional Commanders, leaving the Brigadiers and subordinates to fight the battle, while their divisional commanders tried to exercise some semblance of

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57. Richard Holmes, *The Little Field-Marshal: Sir John French.* (London: Jonathan Cape, 1981), 213.

58. *Sir John French Diary, 19 August 1914*, Sir John French Papers PP/MCR/C32 Reel 2 Volume 7, Imperial War Museum: Hereafter *French, Diary* with appropriate date and reel number, and IWM for Imperial War Museum.

59. *French, Diary, 22 to 28 August 1914*, Reel2 Volume 7, IWM

control. The role of Corps and Army Commanders had changed such that they controlled the preparation, not the battle itself. The successful commanders figured this out and took more notice of administration, unsuccessful ones often did not.

The BEF on 23 August held a line of communications running roughly from Mons to Bavai, the location of GHQ, through Amiens to Havre and eventually to London (see Map 2:1).[60] As GHQ learned the true measure of what they were facing at Mons, Robertson also began to see the scope of line of communications' problems to come. On the 23rd, Robertson wrote Robb to inform him of the situation on the front; he forecast the probable retirement of the BEF from Mons, and as a result could not state where he wanted 4 Division detrained when they arrived. Further, he took the contingency of retaining the bridging trains behind Amiens, as it had become clear that the advance had ended.[61]

That the BEF suffered no great hardships due to lack of supply during the retreat is a credit to the QMG, IGC, their staffs and a combination of training and pragmatism. From an operations' perspective, the general lack of high-level preparation for a retreat meant that the BEF's retirement was partly extemporised - only a few formations, usually divisions, had pre-war practice, and then as a result of their commander's individual initiative.[62] From an administrative perspective, the retirement had to be wholly extemporised, because there had been no pre-war emphasis on the administrative side of things during earlier wargames and staff rides - Robertson and his fellow officers had to fall back on a combination of Staff College training, such as it

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60. The author is grateful to Professor David Miller of Carnegie Mellon University for his instruction and advice in the use of Mapgrafx® which is the computer program used to draw all maps in this work. All maps, unless otherwise noted, are based on WO 153/824, *Railway Map of North-East France, 1918.*

61. WO 95/27, *QMG Branch War Diary, 20 August to 30 September 1914*, War Diary entry, 23 August 1914

62. Cf *Edmonds Memoirs, Chapter XXII: The 4th Division in Peacetime 1911-14*, 445-7, Edmonds Papers III/7, LHCMA

had been, pragmatism, and the professional outlook that had allowed them to make contingency plans. The continued delivery of supplies during the chaos caused by the retirement was a credit to staff work in general throughout the BEF. A few weeks after Mons and Le Cateau, Horace Smith-Dorrien (GOC, II Corps) found himself able to look back on that chaotic period and, after some obvious consideration, write in his diary that he had not at the time made enough mention of the superb efforts of his staff personnel. In particular he singled out his BGGS (Brigadier-General G J Forestier-Walker), but in general he paid tribute to his staff, both operations and administration, for their work during the battles.[63] This represents nearly the final time when a Corps might have had intimate dealings with the staff on the line of communications because of the BEF's small size.

Mons began a period of great difficulty for the BEF's administrative echelons, as they could not be fully certain from day to day where, exactly, the retreating BEF was, but they managed to create an ad hoc system that solved the worst administrative problems while the BEF benefitted, operationally, from the pre-war Staff College training. As the French Armies on their flanks retired, so to did the BEF. During the course of the next thirteen days, the BEF retired nearly 130 miles which necessitated a drastic change in the line of communications. On almost no occasion had the BEF retired on to its own line of communications, a violation of the corollary of G F R Henderson's eighth principle of war, which said that the direction of advance should be governed by the ability to protect one's line of supply and retreat. This violation must have caused *psc*'s of the 1890s to cringe. During this retirement, II Corps fought the major engagement of Le Cateau, which vindicated much of the pre-war operational and command training that the Staff College had been inculcating. That II Corps was able to stand and fight, then make an unimpeded withdrawal came about in no small

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63. *War Diary of General Sir Horace Smith-Dorrien*, 24, Smith Dorrien Papers 87/47/10, IWM. Also in Cab 45/206, Smith-Dorrien Papers

measure because of some of the staff rides and wargames played out prior to the war.[64] The BEF's retirement on 1 September away from their base at Le Mans and off their line of communications, potentially a disaster in the making because of the threat that they might have that line effectively severed, fully justified Robertson's earlier concerns and foresight.[65] Indeed, on 3 September all of the careful planning by the QMG and IGC to open an alternate line of communications on the assumption that the BEF would retire to the northwest of Paris had to be abandoned, as the BEF actually retired on the south side of the French capital. This forced the QMG, AG and IGC to have to plan and reopen the line of communications again, and likely came about because of a lack of communication between the BEF's operations and administrative staffs - almost certainly a two-fold legacy of the *Field Service Regulations, Part II* and the inhibition placed therein on command officers interfering in administration, and secondly, the lack of emphasis on administration in the Staff College.

The chaos in the rear areas of the Allied armies at that time was tremendous, and it reached the point that on 6 September the QMG asked the IGC to only send up easily distributed supplies.[66] So grave had the situation become in Sir John French's mind that he wished to retire out of the line, and reconstitute his army and line of communications before again taking the line. Overruled by Kitchener, the BEF stayed

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64. *Edmonds Memoirs, Chapter XXII: The 4th Division in Peacetime 1911-14*, 445-7, Edmonds Papers III/7, LHCMA. Although the source of this claim might appear somewhat self-serving, the British belief in the offensive meant that pre-war practice in retirements had only occurred at the divisional level.

65. *G S Clive Diary, 1 September 1914*, Clive Papers II/1, LHCMA: although Clive notes Le Mans to have been the base, it appears from WO 95/3949, *IGC, War Diary, August 1914*, Change of Base from the River Seine to the River Loire, August - September 1914, 2-3 and 5, that the BEF's base was more practically Boulogne, with an advanced base at Amiens. Le Mans was not approved by the French as an advanced base until 2 September, and then only temporarily.

66. WO 95/27, *QMG Branch, War Diary, 20 August to 30 September 1914*, QMG to CGS, 3 September 1914; War Diary entry of 6 September

in the line.[67] This left Sir John's administrators the difficult task of again rearranging and recreating the BEF's line of communications to fit the new circumstances. This proved no easy task given the chaos in the rear areas, the lack of practical experience in doing such things, and the continued fighting.

Despite the supply difficulties caused by the retreat off of the line of communications, the IGC was warned by the QMG on 7 September that a general engagement was expected as the Battle of the Marne intensified, so the IGC had to prepare for this without a secure line of communications.[68] As of the 11th, during the pursuit of the German Army to the Aisne, II Corps notified Q Branch of its poor supply situation.[69] GHQ could not understand this shortage as they believed supplies to be plentiful and readily available - probably the result of a lack of appreciation for what the line of communications was up against combined with inexperience with the demands of modern war. One problem was that the railway work was done by the French, despite the existence of a British Director of Railway Transport, later styled Director of Railways.[70] The French proved slightly less amenable to attaching a high priority to the needs of a small, largely untried, foreign army when the fate of France hung in the balance than they had earlier - given snarled communications all along the front, the French would naturally attach a higher priority to their armies, than to two British corps. On the 13th, and the opening of the Battle of the Aisne, II Corps informed GHQ that they had not made rendezvous with the supply columns for the day before. The late running of trains, and the fixing of railheads by French authorities, not GHQ,

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67. Holmes, *Little Field-Marshal*, 231-235.

68. WO 95/27, *QMG Branch, War Diary*, 7 September 1914

69. Ibid., 11 September 1914

70. WO 107/69, *Report Upon the Work of the Quartermaster-General's Branch of the Staff and Directorates Controlled. British Armies in France and Flanders, 1914-1918*, 14-15.

meant significant dislocation of the supply replenishment system. By 14 September, a problem caused at a station in front of Villeneuve delayed supply trains for up to sixteen hours. Simultaneously, the ammunition expenditure began to take its toll on the system. Formations in the fighting line used tremendous quantities of 60-pounder and 4.5" Howitzer ammunition, peaking on the 15th and 16th when III Corps had used all of its heavy and howitzer ammunition. No more was available at the railheads and none likely before the 17th or 18th.[71] In spite of these problems, the BEF had fought well on the Aisne, but were very fortunate that the battle had petered out after 16 September, as it appears that the administration had reached the absolute limit of its capabilities until such time as a period of relative stability returned to the BEF's front. Luckily, some time came to hand as the fighting lessened in intensity during the 'race to the sea.' This gave a brief respite, during which the BEF shortened its line of communications by moving to the Ypres area, before the fighting picked up again.

The retreat and the race to the sea had shown that the practice of logistics on the line of communications was not as difficult as many had feared, and the men on the line of communications, those doing the actual physical handling of the supplies, had not been greatly overworked or challenged.[72] Indeed, the BEF had discovered that the ability of units to receive supplies governed things, not the line of communications' ability to send those supplies - battlefield circumstance governed tactical resupply, often for the worst.[73] This had allowed the QMG, AG and IGC to continually reorganise the

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71. WO 95/27, *QMG Branch, War Diary, 20 August to 30 September 1914*: entries in diary for the dates in text

72. WO 79/63, Robb to Sir Charles [?], ca.16 September 1914. See also *Notes on Strategy by Colonel Henderson. Compiled for the use of Students at the Staff College*, Robertson Papers I/2/10, LHCMA: The retreat had violated Henderson's 'rule' eight.

73. Ibid., Robb noted, 'Robertson, who is far more in touch with the troops than myself, says that he cannot even fix rendezvous and refilling points for them [the troops], every time he has tried he has failed.' This points to a fluid battlefront and tactical supply difficulties.

line of communications as the circumstances had changed, and would not likely have been possible had the BEF been substantially larger than is was.

The First Battle of Ypres, which raged from 19 October to 22 November, stretched the administrative services of the BEF as badly as at any time in 1914 because it came right on the heels of the BEF's arrival in the area and because it exceeded the scope of previous British efforts. Only three days before the encounter battles which opened First Ypres, the QMG warned the IGC that only three lorry-loads of ammunition could be distributed per day to each division, due to the movement of the BEF to the west and German activity. As a result, he had to ask the IGC to slow down deliveries, bearing in mind the probable increase in demand should the front re-stabilise.[74] On the opening of the Langemarck phase (22 to 24 October) of the battle, the QMG and IGC faced serious problems with the railways. The late running of trains from Boulogne meant that British railway engineers had to be temporarily placed under the control of the Commission Regulatrice (the French Railway Authorities) in an effort to get the trains back on schedule. In addition, a tremendous hodge-podge of nationalities in the rear area followed the BEF's move westwards in the line and resulted in tangled British, French and Belgian lines of communication - each found itself drawing supplies across the others' lines of communication and inefficiency resulted.[75] In spite of this, the battle continued and placed great pressure on the line of communications to keep supplies flowing forwards. On the 23rd, Robertson expressed to Maxwell his appreciation of the strain on the line of communications, saying:

> An enormous amount of ammunition has been expended during the last few days by the RHA, and they appear to have shot, say two or three of their guns entirely away ... There has of course been a good deal of waste, and a certain amount of sharp practice in units trying to pinch things in different ways, but I do not think there has been any great

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74. WO 95/27, *QMG Branch, War Diary, October 1914*, QMG to IGC, 16 October 1914, Appendix 11.a

75. Ibid., Robertson to Maxwell, 22 October 1914; General de Division E Laffon de Ladebat (French IGC) to Maxwell, 17 October 1914

> excess of the latter although there certainly has been excessive waste ... but when troops are fighting very hard one does not like to worry them too much about administrative matters. The chief thing is to beat the enemy and we must be lenient to some extent when fighting is taking place ... I have no anxiety, and never have had any worth mentioning, in regard to food supplies, but from the very first I have had a very great deal of anxiety with respect to ammunition.[76]

One can clearly see the pragmatic nature of the QMG in these comments - concerned with the waste, and therefore cost, of battle, but unwilling to trouble the troops during the fighting because he knew its importance to them. The next day both the QMG and IGC expressed their concerns over the lack of 18-pounder and 13-pounder ammunition to the War Office and on the 25th the 18-pounder ammunition distribution was restricted and the ominous words 'per diem' entered the BEF's lexicon.[77] Per diem, or daily allowance, rationing of ammunition expenditure crippled the BEF's ability to attack and defend, and dogged their efforts until 1916. In spite of these difficulties, the Battle of Ypres lasted until late November and its cost in lives has been called the 'Death of an Army' - the old professional British Army of the nineteenth century.[78] From this point onwards, the BEF slowly began to change into a mass army, without the officers to lead or staff it.

The administrative difficulties that followed First Ypres centred on the problem of the forthcoming expansion of the BEF for which no preparation had been made, as the scale of commitment had not been foreseen. Not only would relatively less well trained troops be arriving, but their officers would be less experienced since there was an insufficient cadre in Britain, and the expanded administrative services required would also have to be staffed by inexperienced officers. This began as early as 1 November when Maxwell wrote Robertson to advise that Nantes probably should be

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76. Ibid., Robertson to Maxwell, 23 October 1914, Appendix 16.a

77. Ibid., 24 and 25 October 1914

78. Anthony Farrar-Hockley, *Death of an Army* (London: Arthur Barker Limited, 1967) makes this argument.

retained in some reduced capacity rather than being abandoned completely. Maxwell was predicting a much larger BEF in the spring, with three bases and two or three separate lines of communication.[79] Essentially he wanted to keep open the option of utilising Nantes in the future as a base. The motorised transport also faced severe strain. Although the situation in France was stable, the reserves of motorised transport in the United Kingdom were badly depleted.[80] If Maxwell's prediction of a much larger Expeditionary Force proved correct, and they were underestimated if anything, this might have grave consequences in 1915. GHQ sought alternate means of moving supplies almost immediately, and considered such options as canal traffic, expanding the railways, and utilizing light railways to supplement the existing system. All were ultimately to be used, but the root problem remained that the BEF had been essentially unprepared for the scale of their effort in comparison to previous wars. As a result, problems soon occurred. For example, Robertson became irritated in late November at the slow receipt and issue of clothing, particularly cold-weather gear as winter had set in early. He saw no reason why clothing took up to three weeks to reach the troops when they received ammunition within forty-eight hours of its being sent from England.[81] These problems caused concern as they directly affected the BEF's performance in the field. Given the BEF's unpreparedness for the scope of a continental war, however, it is to the administration's credit that the troops suffered less than might have been predicted from the blanket assertions of incompetence in the historiography. What shortages did occur came about more due to production in England than any great inefficiency in France.

The BEF's administration faced new problems as a result of the increasing size

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79. WO 95/27, *QMG Branch, War Diary, November 1914*, Maxwell to Robertson, 1 November 1914

80. Ibid., 'Troopers' (probably Cowans) to C-in-C, 2 November 1914; reply to QMG5b

81. Ibid., QMG to IGC, 22 November 1914

of the BEF at the end of 1914, but they also, finally, began to receive the benefit of a stabilisation in the lines and the creation of a static front that allowed them to establish and maintain a less ephemeral line of communications than had been the case. After reconstituting his army, Sir John joined with the French Armies in the advance to the Marne and the crucial battle on that river line. A series of attempts at turning each other's flank followed, which succeeded in creating the line of trenches from Switzerland to the sea. Thus, the war took on the character that dogged it for the next three years. The war's new static character eased pressure on the line of communications giving the QMG and his fellow administrators the chance to cope with the start of a huge increase in numbers. By the end of 1914, in spite of the advent of trench warfare, few of the military surprises of the opening actions had been fully absorbed. It was to be years until they were. The major surprise of the war from both a tactical and logistical basis was the ferocity and intensity of the fighting. Clearly, a vastly increased size was required by the BEF to cope with continental warfare. Simultaneously, the tactical lessons of the opening actions would take time to absorb, and in the meantime, the static front benefitted the BEF at a time when they most needed it.

Once the war of movement broke down, the likelihood of a long war meant that the War Office got to work planning the expansion of the British Army in the face of a British economy that had not been mobilised for the war. Indeed, Kitchener's fears of a long war started this almost immediately. This was reflected in the orders placed by Cowans, for equipment to outfit the expanded army. No sooner had the war begun than Cowans began placing massive orders for materiel. For example, by 18 December the War Office (based on estimated needs for the year to September 1915) had placed orders for some 7.8 million pairs of boots.[82] This left 1.9 million still to place based on estimates, and dramatically exceeded pre-war yearly requirements of some 250,000

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82. Cowans to Robertson, 23 December 1914, Robertson Papers I/7/57, LHCMA

pairs.[83] As of 18 December 1914 boot deliveries had already fallen 692,000 pairs in arrears. This was typical of orders for clothing and other consumable items in 1914, and begins to show the scale of problems to come later in supplying the needs of the Army and the difficulty that British manufacturers had in meeting the sudden increase in demand. Of the clothing orders, only five items were over-supplied - canvas shoes, flannel, officers' fur coats, hose tops and buttons - and of these only the flannel was a high demand item.[84] Such troubles at the War Office meant troubles in France. In fact, GHQ's major problem became, not distribution in theatre, but the inadequate level of production in England and abroad.

In addition to the inadequate level of production for the BEF, the QMG had to cope with what had become a multi-national army. The arrival of the Indian Expeditionary Force (IEF) in late 1914 gave the BEF its multi-national character, and also caused some difficulty. Due to the varying religious beliefs in the IEF, for example, the Director of Supplies faced large variations in their ration requirements - Hindus could not eat beef and Muslims could not eat pork. The Director of Supplies wrote some scathing entries in his war diary regarding the rationing problems. The most telling read:

> The feeding of the Indians is becoming more difficult. ... As far as I can see in a very short time we shall have at least half a dozen different classes of rations for Indians.[85]

This entry was made only days after he had been informed that he was to supply a daily opium ration to the 6,000 Sikhs in the IEF under the euphemism 'Indian Treacle.' His confusion then was clear, as he wrote, 'This is the first I have heard of opium. I did not know that it formed a part of their ration, nor do I know what stock there is in the

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83. *BOH(1914, 2)*, 18.

84. Cowans to Robertson, 23 December 1914, Robertson Papers I/7/57, LHCMA

85. WO 95/74, *Director of Supplies, War Diary, October 1914 to January 1915*, 3 November 1914: see also entries for 6, 8, and 13 November 1914

country as yet.'[86] Three days later he had discovered 'that there is at Marseilles about 1,100 [pounds] of this [Indian Treacle], and as my issue will only be about 15 [pounds] a day, I shall have sufficient for some time.'[87] Add to this the fact that the IEF drew supplies over a dual line of communications, part from the channel ports and the rest from Marseilles, and it is clear that GHQ's administrators had difficulties with their presence in France. At the time the BEF's small size and desperate need for more men and formations drove the administration to find ways to deal with such problems as the Indians posed although considerable difficulty existed for the first few weeks.[88] The IEF, in fact, may be seen as merely the beginning of the BEF's growth and, while the BEF remained relatively small, expedients and ad hoc adjustments to the way things got done sufficed.

The sheer volume of increase in the numbers of men led to a corresponding increase in equine numbers and demanded a substantial increase in the overall amount of supplies sent to France. The numbers of horses became a sore point with Robertson as early as December 1914. He wrote to Cowans on 16 December a letter which expressed his frustration with the number of horses attached to the various cavalry divisions and brigades, which he felt would not be of any use in the type of warfare being encountered in France stating also, 'the cavalry take, as you know, by far the greater proportion of the lorries we have, with their double echelon of M[otorised] T[ransport] and their enormous requirements in hay.'[89] When added to the increase in requirements for horses in artillery and ASC units due to the mud in the front areas, one

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86. Ibid., 29 October 1914

87. Ibid., 1 November 1914

88. G S Brunskill Memoirs, 14, 1 April, 1915, G S Brunskill Papers, PP/MCR/136, IWM

89. Robertson to Cowans, 16 December 1914, Robertson Papers I/7/45, LHCMA

can understand this frustration.[90] Based on the establishments of the original divisions, admittedly not uniform, the horse and manpower requirements for the fighting services alone grew enormously. Table 2:1 illustrates this increase:[91]

Table 2:1
BEF Manpower and Horsepower, late 1914

Formation Type	Number of Men	Number of Animals	Number in France, October 1914	Total Number of Men	Total Number of Animals
Infantry Division	18,073	5,592	11	198,803	61,512
Cavalry Division	9,269	9,815	5	46,345	49,075
Infantry Brigade	4,055	247	1	4,055	247
Cavalry Brigade	1,718	1,873	1	1,718	1,873
Heavy Batteries	198	144	11	2,178	1,584
Field Artillery Brigade	795	748	31	24,645	23,188
Horse Artillery Brigade	681	779	15	10,215	11,685
			TOTAL:	287,959	148,164

Although the cavalry comprised only 16.7 percent of the manpower available to the

90. Robertson to Cowans, 12 November 1914, Robertson Papers I/7/2, LHCMA

91. Table 2:1 has been drawn up using the notes from Appendix 2 of *BOH(1914, 1)* for the numbers per division, brigade, regiment or battery; *BOH(1914, 2)* 473-88 provides the numbers of each formation in France as of roughly the end of October 1914. These have been checked against WO 95/25, *AG Branch, War Diary, 15 January 1915* which gives a total 'ration strength' for the BEF of 293,709 in front of railheads and 32,569 on the line of communications either doing work or in hospitals. Finally, WO 95/28, *AG Branch, War Diary, Appendix 11/AN*, 'Statement Showing Number of Animals with the British Forces in France for Week Ending 7th November 1915' shows that the number of horses with each infantry division remained between 5,000 and 6,000.

BEF, their horses represented 34.4 percent of the horsepower. Robertson's complaint is easily understood.

The increases in projected force size led to the need for Army headquarters. Robertson initially opposed the creation of army headquarters, as he was concerned with the added administrative task of serving an extra level of command and staff.[92] Eventually he changed this opinion as it became clear that the BEF would grow dramatically over time. He eventually saw the army headquarters as an extra administrative level which could reduce the demands on GHQ's administrative staffs by absorbing some of their functions - a change from his earlier belief that corps could and should be the main administrative level.[93]

In August 1914 the BEF went to war with an administrative structure at best only marginally suited to its needs, however, the flexibility of the *Field Service Regulations, Part II* and the professionalism and pragmatism of its administrators allowed it to successfully overcome the obstacles that this new war placed in their path. One very serious problem of administrative control and therefore inefficiency, the IGC's position, had been mitigated by his pseudo-subordination to the QMG and AG but remained unresolved. Nothing in British experience had trained the BEF for the kind of war it had entered - an industrial, continental war that made tremendous demands of its military ability and corresponding administrative capability. The administrative strength of the BEF lay in its professional staff officers, their pragmatism and the pragmatism of the senior administrative officers. Most of the decisions made in 1914 revolved, not about how to change the system, but how to adapt the general regulations to the needs of a continental army, and how best to use the latent administrative talent in Britain that had run the empire before the war. Anthony

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92. Robertson to Cowans, 17 December 1914; Robertson to Cowans, 16 January 1915, Robertson Papers I/7/48 and I/7/67, LHCMA

93. Robertson to Cowans, 23 December 1914, Robertson Papers I/7/53, LHCMA

Farrar-Hockley called the period up to the end of the First Battle of Ypres the 'death of an army.' He was essentially correct, for the 'teeth' of the BEF had been worn down and so had the 'brains' - by 30 November, the BEF had suffered nearly 100,000 casualties, of which officers made up 3,627.[94] Of this number, by far the majority were officers in combat units and formations, though it also included operations staff officers of those formations such as the highly respected Brigadier-General J Gough (BGGS, I Corps). So grave had the situation become that, at the end of the year, the AG persuaded the C-in-C to agree that regimental affiliation should be ignored in the future when posting officers to units, so great had the need become for experience.[95] The well trained professional body of men that left England in August had ceased to exist and was being replaced by a twentieth century mass army and by a new officer corps who did not have the Staff College background of the old one, but who had real world experience to bring to the job. In the meantime, however, while the groundwork for that new army had been laid, the BEF would suffer from its lack of trained staff and command officers during its growth.[96] The administrative echelons required to keep an army of one to two million men had been created in spite of the weaknesses of the regulations from which they were drawn because of the use of ad hoc expedients. The 'tail' that would support the tremendous expansion of the BEF had been tested, and perhaps surprisingly, had proved just equal to the test.

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94. WO 95/25, *AG Branch, War Diary, 30 November 1914*: the actual numbers were:
Officers - 842 killed, 2,097 wounded, 688 missing and
Other Ranks - 8,631 killed, 37,264 wounded, 40,342 missing

95. Ibid., Diary, 31 December 1914

96. Bond, *Victorian Army*. See concluding chapter, especially 303-4 and 328-9.

Chart 2:1 - Effective Control of Directors Reporting to QMG, per *Field Service Regulations (II, 1914)*

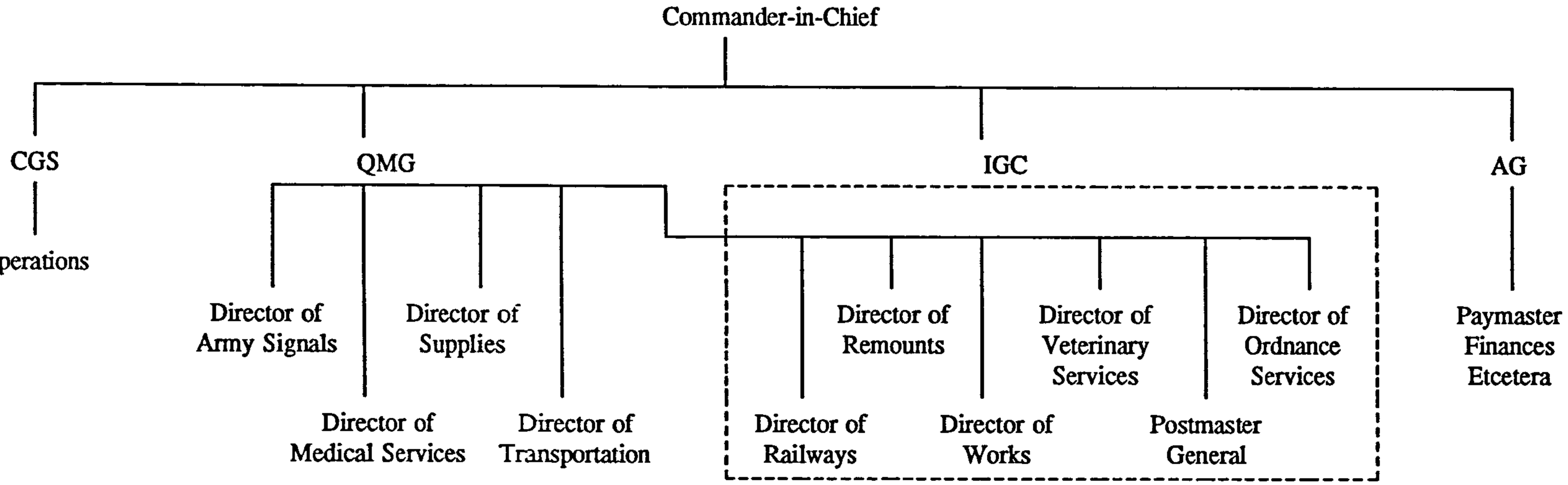


Chart 2:2 - A More Practical Set-up for Directors in the Field (Required recognition of IGC as 'Staff' Officer)

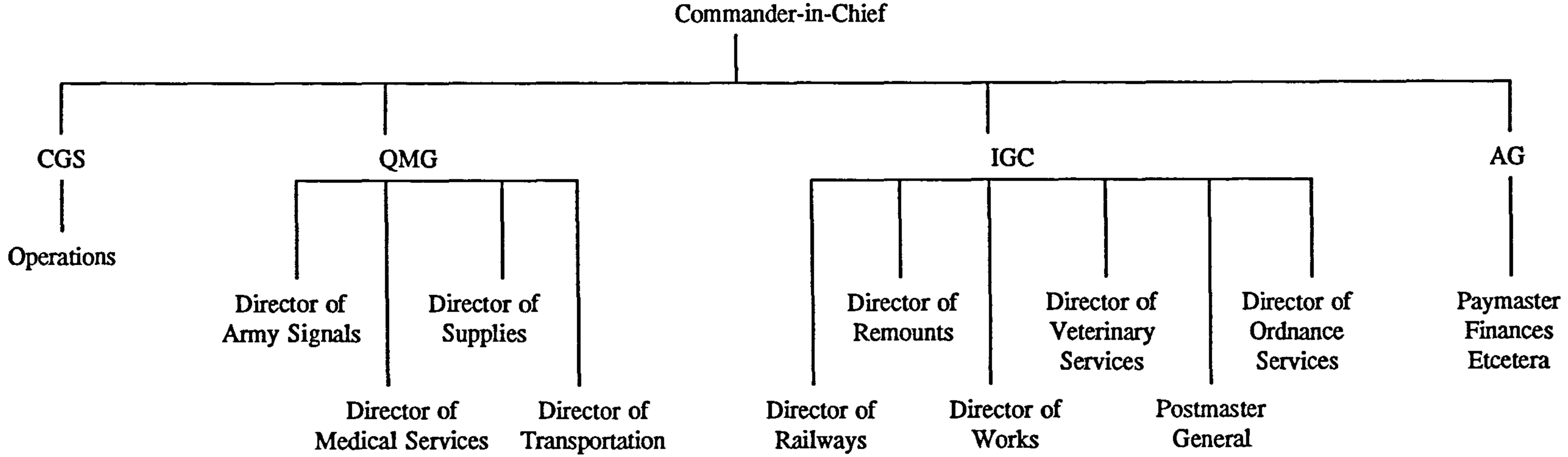


Chart 2:3 - Control of Directors as Suggested by Major-General Sir Neville Macready, January 1914

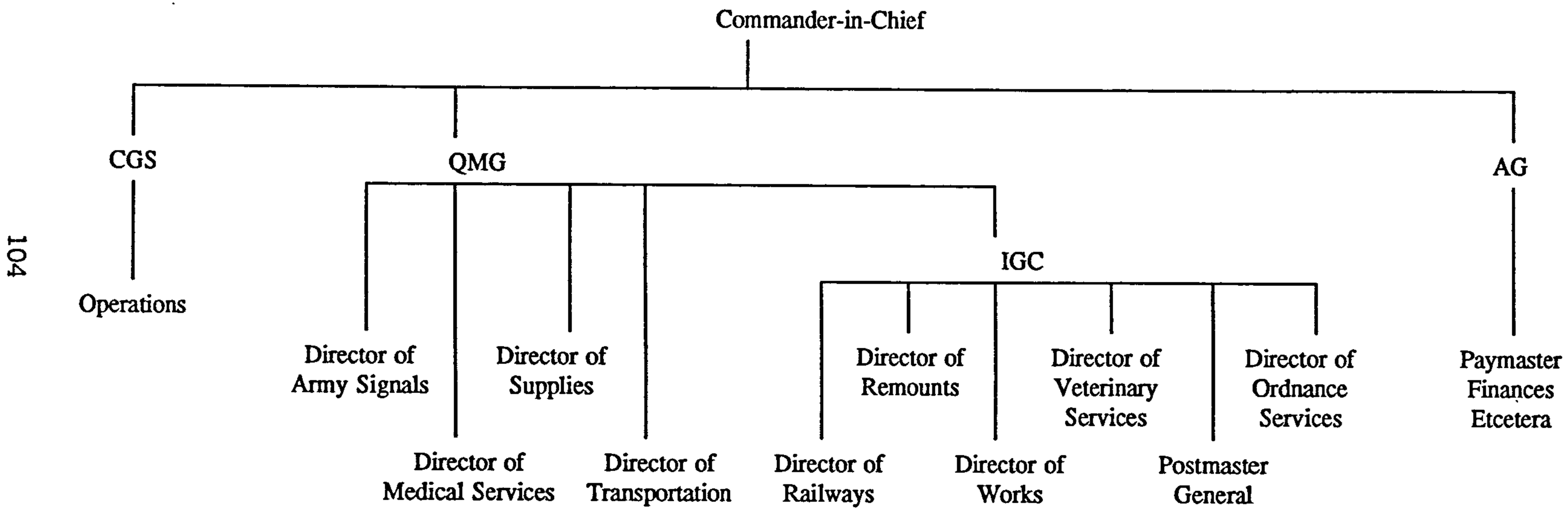
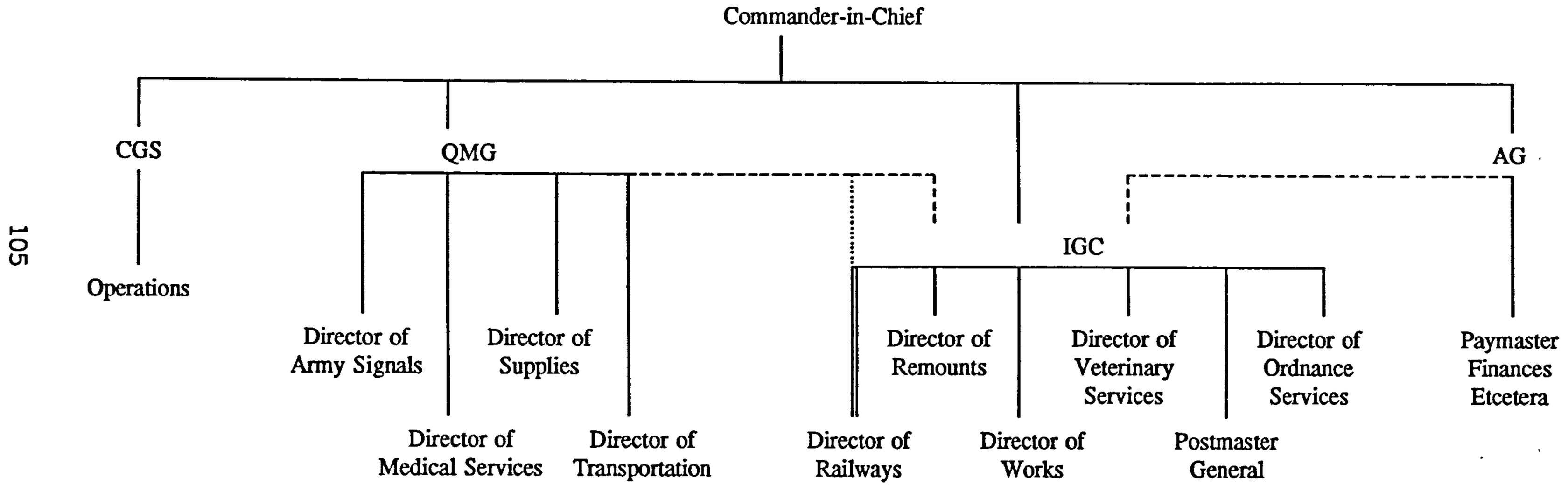
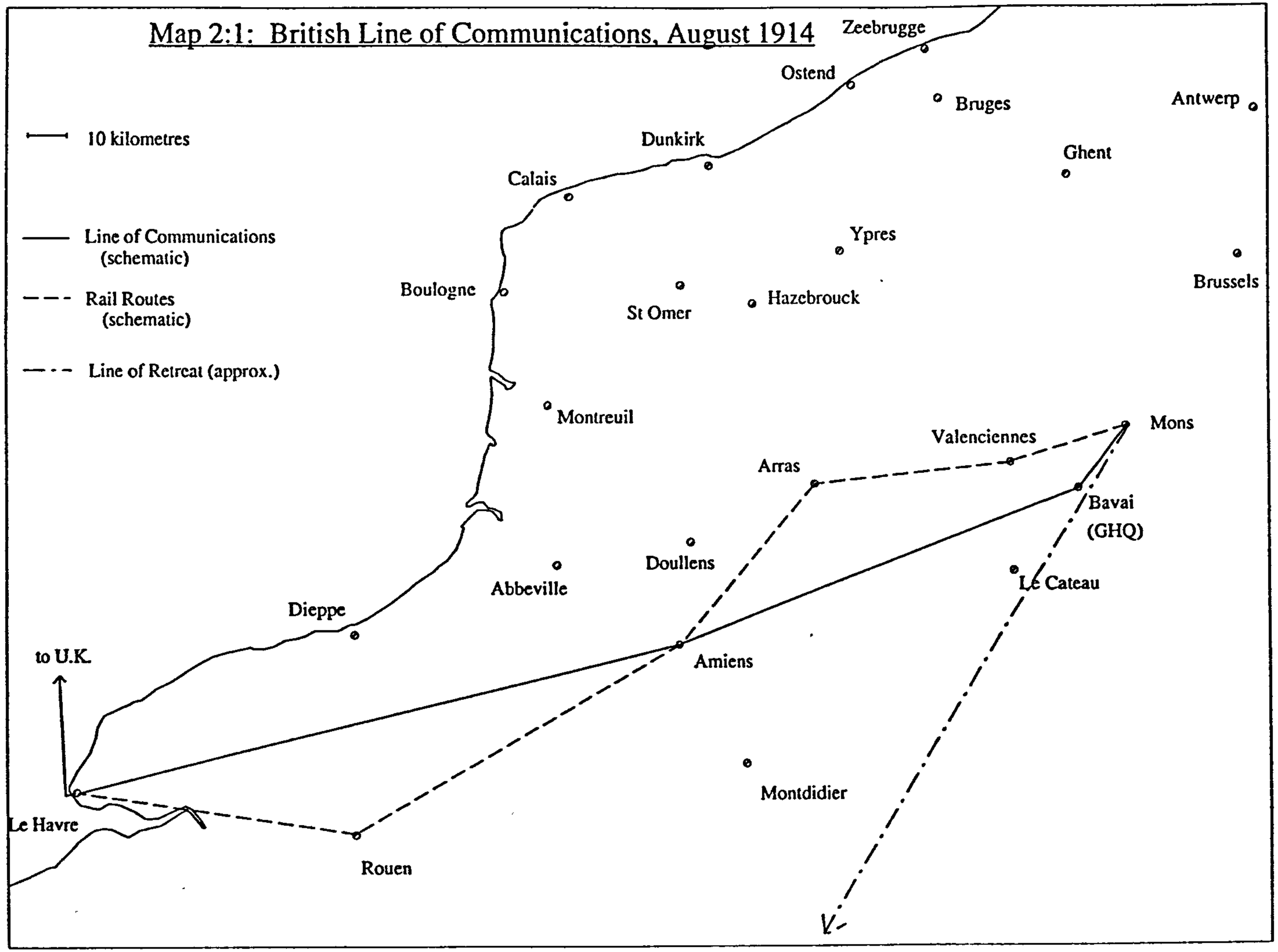


Chart 2:4 - Functional Control of Directors in the Field as Developed in August/September 1914



Map 2:1: British Line of Communications, August 1914



Chapter 3

Escalation and Reality:

The BEF's Move Toward Becoming a Continental Army

and the Exercise of 'Per Diem' as a Control on Battle

1915, from a British perspective, can be considered a year of escalation, both of the war effort and of the BEF. It proved a trying year because Britain had been unprepared to field a continental army and had not expected a prolonged conflict. As a result, the BEF's results in battle proved mixed, and the lack of production left the BEF chronically and dangerously short of all types of artillery ammunition. Ironically, such shortages benefitted the administration since they only had to be concerned with the tremendous numerical growth of the BEF, they did not have to support substantial and prolonged battles. As a result, the administration continued to make ad hoc changes to systems to overcome new problems. While the BEF grew enormously (over 300 percent) during the year, the lack of ammunition allowed the administration to make effective changes without considering the future. The lack of ammunition also led to a stagnation of tactical and operational development. Finally, neither Sir John French nor Sir Douglas Haig had the ability to make strategic choices or set strategic goals because they did not have a force capable of attaining such goals. On 1 January 1915, Sir John French found himself in command of an army in transition - the old British Army of highly trained and professional career soldiers having effectively ceased to exist during the encounter battles of the previous year, while Lord Kitchener's New Armies had yet to arrive. However, the administrative infrastructure put in place in August 1914 - based on the *Field Service Regulations* and pragmatism - remained intact. The new year would see GHQ do its best to cope with the BEF's expansion in the face of pre-war plans and estimates which had not projected such growth. At the same time the flexibility in the regulations which had been evident in 1914 began to break down as the

pressure brought on by the growing Expeditionary Force forced the administration to face new problems with inadequately defined specifics. Inefficient munitions production, the difficulty of coping with an ally rightly concerned about war on its territory, and the lack of trained officers of all ranks and specialties all complicated the smooth expansion of the BEF. Coordinating this growth would be a very difficult task.

The pre-war plans in the War Office did not anticipate the dramatic growth of the BEF which began in 1915, but the administrative echelons of the Expeditionary Force understood that expansion was imminent in late 1914 and that many problems would result. The first problem was the reorganisation of the line of communications with multiple armies in mind. Indeed, as early as 1 December 1914, the IGC (Maxwell) had raised the point with Robertson in relation to planning for the future needs of the lines of communication. Maxwell wrote to him that:

> the time is not far distant when any great increase of formations from England will necessitate the consideration of having two Lines of Communication for the maintenance of the Army, and these lines will have to be to a certain extent independent in so far as their organization and administration are concerned.[1]

The *Field Service Regulations, Part II (1912)* prescribed this very recommendation, but it raised the spectre of a fifth senior administrative officer - the CGS, QMG, AG, and two IGCs. Given the teething troubles with the IGC's unclear mandate in 1914, there would have been serious difficulty with two in 1915, and perhaps three or four later as the BEF continued to expand. It is not at all clear how two IGC's would have split control of the Directors at their headquarters; suffice to say that the issue would have been even less satisfactory. Maxwell, however, had no other option than to suggest two lines of communication, as estimates he had received (almost certainly from Cowans) indicated that 'in the very near future' the strength of the BEF would reach

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1. WO 95/3951, *IGC, War Diary, December 1914*, IGC to QMG, 1 December 1914, entry 617

706,200 men and 244,200 horses[2] - more than double the strength currently being fed. Thus, Maxwell's concern and proposed solution are easily understood. He suggested planning for a 'Group A' line of communications based on Le Havre and Rouen capable of maintaining 350,000 men and 120,000 horses; and a 'Group B' line of communications based on Boulogne, Calais and Dunkirk for 500,000 men and 240,000 horses.[3] Clearly, Maxwell hoped to build a margin of safety into his plans by preparing to feed 850,000 men and 360,000 horses.

The second problem faced by GHQ was how to get enough port space to feed the larger BEF. Planning was based on the hope that the French would allow the use of Calais and Dunkirk by the BEF, as GQG (French General Headquarters) would have to approve any British effort to utilise these ports. Robertson provided little or no encouragement on that point. He informed Maxwell that:

> He [the Commander-in-Chief] prefers that the question should stand over for the moment and await developments in the Eastern theatre of operations. ... we cannot carry out the reconnaissance of Calais and Dunkirk without consultation with the French Authorities, and the Chief thinks that the moment for doing that has not yet arrived.[4]

Robertson asked Maxwell whether he felt the situation that the BEF faced at the time might be, in fact, satisfactory until the New Armies and Territorial divisions began to arrive. Maxwell responded that, while two additional infantry divisions and a cavalry division could be supplied through the existing ports, the BEF had begun to approach the limits of daily rail traffic allowed by French Railway Authorities, that the Force required a margin of safety, and that with this in view, GHQ should ask for limited access to Dieppe.[5] At that point, Maxwell allowed the matter to drop for a short time.

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2. Ibid.
3. Ibid.
4. Ibid., QMG to IGC, 3 December 1914, entry 617
5. Ibid., IGC to QMG, 5 December 1914, entry 644

In early 1915, Robertson had found himself forced to concede on the issue of the creation of armies in the BEF because it became apparent that the BEF needed an extra level of administration. He had opposed the idea earlier because it would have added that extra level of administration and he had simply not felt it to be necessary. However, he found himself forced to make the decision that, while supplying eighteen stationary divisions remained feasible, they could not be supplied while moving - either advancing or retreating - and the BEF, wedded to old ideas, still planned to move. Therefore, GHQ required army headquarters to control the burgeoning BEF.[6] The BEF now had to cope with the creation of new headquarters at a time when corps headquarters had practically ceased to be a tactical one - Corps Commanders having less ability to influence the tactical (and operational) outcome of battle as time wore on. The question of what an army staff should do had no clear answer because the British Army had little practical experience with such a formation. Haig and Smith-Dorrien, the first two to tackle the problem, had diametrically opposed solutions. Smith-Dorrien, according to Haig, 'was very anxious to have a large Army Staff of all sorts,' while he himself wanted, 'a small manoeuvring one and for the present not to touch administration.'[7] Haig had proposed that his Army Staff 'deal with operations' while leaving 'all administrative work' to corps and divisions.[8] This attitude provides something of a puzzle. Haig certainly appreciated the value of solid administration - this would become very clear after he took over from Sir John - but he had found little time while commanding I Corps to deal with administrative matters, because, at this point in the war, the corps remained a fighting formation. There is no clear indication as to why he, as an army commander who had more time to deal with the problem,

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6. Robertson to Cowans, 16 January 1915, Robertson Papers I/7/67, LHCMA

7. WO 256/3, *Haig, Diary*, 29 December 1914

8. ibid., 26 December 1914

wanted to foist administrative problems on to subordinates in fighting formations.[9] In fact, Haig's desire to steer clear of administrative detail is likely nothing more than a misguided belief that he, as an army commander, might actually be able to influence battles in progress. This created something of a puzzle - why would two experienced officers such as Smith-Dorrien and Haig be so far apart in their desires for their staffs, given their similar training and experiences so far as Corps Commanders in France?

The solution to the puzzle posed by Haig's proposal for a mobile headquarters was a mix of size and a new way of warfare. For the first time, Britain fielded more than one large army, a formation British commanders had no practical experience with, while at the same time, the ability of Army and Corps Commanders to affect the course of battle, as had Napoleon, had passed. The two commanders other than the BEF's C-in-C (who now had on-the-job experience) who had similar command backgrounds - Lord Roberts and General Sir Redvers Buller - could not help as both had passed away. Sir John and his subordinates had, therefore, to blaze their own trail and learn how to command large British formations by the process of trial and error. As a result, different views and changed minds had to be expected.[10] What Haig and many of his contemporaries had quite simply failed to grasp was that an army had ceased to be a tactical formation whose commander could affect battle while it occurred. Haig had, whether he realised it or not, become superfluous to the actual conduct of battle, though he retained a very significant and profound influence on operations by his actions during their preparation. On 20 January, GHQ, in the form of the AG and QMG, informed him of their plan:

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9. Haig's diary entries for 1914 (WO 256/1) clearly indicate that he commanded an operational formation. Likewise, he had more time to visit rear areas (WO 256/3, 5 January 1915) after his promotion to First Army Command.

10. Cf Robertson to Cowans, 23 December 1914 and 16 January 1915, Robertson Papers I/7/57 and 67, LHCMA: in the first Robertson argued that Corps should have more administrative duties than Armies, but in the second, he has changed his mind.

> to enlarge my Staff so as to enable me to control a second line of communications. In the meantime GHQ will control the several lines of communication from the Bases as far as the railhead. I shall be responsible for everything for the First Army from that point.[11]

From this date onwards the army had become an administrative and coordinating body, its only tactical responsibility being reduced to resupply beyond the railhead. Its impact on operations had to be made before they got under-way through sound planning and preparation that left commanders of lower formations capable of carrying out the plan.

Robertson's decision to support the creation of armies came just before Cowans advised GHQ that he forecast an additional 500,000 men and 250,000 horses (some twenty-five divisions) to comprise six field armies - the requirements of which would be 7,000 tons of supplies per day.[12] In the event, Cowans was significantly in error in his estimates as they related to 1915. The addition of 500,000 men to the mid-January strength would have made the BEF some 800,000 strong. By 10 October, the actual strength had reached 945,025 men, and 306,104 horses.[13] In any event, the BEF's size trebled in only ten months as Figure 3:1 illustrates.[14] The problems faced in 1915 came as a direct and predictable result of this expansion.

At its core, the push for Robertson to sanction the creation of armies had come, in considerable measure, from the prodding of the IGC, General Maxwell at the time, who recognised that many problems might be avoided by testing the system before it became too large. On 20 December 1914, Maxwell wrote Robertson to suggest that the BEF be immediately split into two armies. Maxwell felt that the extra level of

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11. WO 256/3, *Haig, Diary*, 20 January 1915

12. Cowans to Robertson, 18 January 1915, Robertson Papers I/7/70, LHCMA

13. WO 95/25, *AG Branch, War Diary, 10 October 1915*; WO 95/28, *QMG Branch, War Diary, 10 October 1915*: the latter indicates that 36 Division, in process of landing, brought the BEF's strength up to 965,364.

14. Figure 3:1 has been compiled from entries in WO 95/25, *AG Branch, War Diary, August 1914 to December 1915* and WO 95/27-28, *QMG Branch, War Diary, August 1914 to December 1915* inclusive.

headquarters that would be created when army headquarters came into existence might complicate supply arrangements, and he wanted to determine how the new system would work while the BEF remained of a manageable size. In other words, he wanted to try out the new system while he retained the capability to revert to the old one should it not succeed. At the same time, this effort represented a subtle prod from the IGC to indicate the need for wharfage. By arguing in favour of an immediate split, on the issue of manageability, Maxwell probably hoped to make Robertson ask himself why the IGC had such concerns. However, Robertson, reluctant to tamper with the supply system until it became necessary, refused Maxwell's request.[15] Three days later Maxwell again wrote Robertson, to state:

> I would submit for the Commander-in-Chief's consideration that the time has come when some fairly definite policy as regards the future scheme for the maintenance of the Army is required to be laid down.[16]

He went on to reiterate the numbers he had provided earlier in the month, stating that the maximum capacity of Havre, Boulogne, Rouen and Dieppe was 392,500 men and 166,500 horses and that, 'as soon as this number is exceeded we must open Northern ports, therefore when the new armies arrive we cannot do without Calais and Dunkirk.'[17] Finally, he noted that it took four to six weeks to get a new Base (base port) into operation, and that if a third new army arrived without his having access to Calais and Dunkirk, the BEF would need to use Ostend and Zeebrugge - both of which happened to be in German hands. In addition, the French would need to be persuaded to allow more railway traffic to be dedicated to the use of the BEF. Maxwell's anxiety regarding the new level of administration can be understood by examining the huge demands placed by the new armies. He had, for example, on 21 December, received a

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15. WO 95/3951, *IGC, War Diary, December 1914*, QMG to IGC, 20 December 1914; QMG to IGC, 22 December 1914, entries 819 and 854

16. Ibid., QMG to IGC, 23 December 1914, entry 853

17. Ibid., QMG to IGC, 23 December 1914, entry 853

letter from the Director of Supplies advising that the hay ration for horses should be cut during the winter because the 11,018 tons of forage per week required for the BEF's 125,000 to 130,000 horses had begun causing considerable strain.[18] The addition of up to a quarter of a million more horses to support the projected strength of the New Armies must have caused Maxwell tremendous unease.

The time had clearly arrived, indeed it had passed, when the French must be approached. Again, however, it appears that GHQ made no effort to force the issue of access to Calais and Dunkirk with the French - perhaps because Sir John did not fully understand the task being demanded of the line of communications and administrative staffs. Such misunderstanding was likely partly the legacy of Sir John's experience in 'small wars,' and the partly fact that his army's size, the largest in Britain's history, had begun to force him to blaze a trail for later British leaders. This must also have stemmed in large part, however, from the command and administrative split laid out in the *Field Service Regulations* which discouraged Sir John from taking an active role in administration, unless it had broken, or nearly broken down, which had clearly not yet happened. Maxwell had to find some way to force the issue, without overstepping his ill-defined office. According to the *Field Service Regulations*, Maxwell should have had access to the C-in-C that equalled that of the QMG, CGS and AG, but his headquarters on the line of communications meant that on most matters he was forced to act through the QMG because he could not afford to take the time to go to GHQ.

Maxwell's concern can best be understood by examining the BEF's line of communications. By late 1914, the BEF had a coherently, though clumsily set-up line of communications. Havre and Boulogne provided the main bases for supplies and ammunition, with other ports supplementing them (see Map 3:1). However, Boulogne also served as the main regulating station, which meant considerable congestion on the rail lines in that port. Trains from southern ports, such as Havre and Rouen, ran to

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18. Ibid., IGC to QMG, 24 December 1914, regarding Director of Supplies to IGC, 21 December 1914, entry 858

Abbeville by a circuitous route before continuing on through Boulogne to Calais and St Omer where the supply routes finally diverged. This did not form an ideal or particularly efficient set-up, and Maxwell desperately needed approval for new facilities now that the BEF had decided to create army headquarters in preparation for further growth - without allowing him the additional port space he needed to supply the growth.

In January, Robertson experienced first-hand the problem that his refusal to raise the ports question had posed the IGC. At this time Robertson wrote to tell Maxwell that Kitchener had 'hit him with a bomb' - the proposal that the BEF do away with base ports in France which, at the time, were where the BEF kept its reserve stocks. Maxwell responded by informing Robertson that he had, indeed, been discussing that very possibility with Cowans who must have discussed the issue with Kitchener. He went on to explain that he and Cowans had been thinking of making England the main base of the Expeditionary Force and planned to load ships in England such that they could be directly off-loaded onto trains in France. In theory, this would allow him to leave only fifteen days' supplies in France. He stated that:

> provided the Railways could get the stuff out of Havre and Rouen we could by working 24 hours daily in shifts, in lieu of 12 as now, deal with twice the quantity of stuff by direct loading to train from ship.[19]

By reducing the reserves at the base ports, Maxwell could reduce the space needed to handle supplies there, as at that time supplies were off-loaded from ships to trans-shipping facilities where they were held briefly until loaded on to supply trains for the front. Direct loading would cut out this step, but would require a great deal more planning on both sides of the Channel. In fact, direct loading was something of a mirage. The potential savings in its use would have been difficult to obtain in 1915 because the War Office and GHQ did not plan jointly, so GHQ often had little idea of the manifests of ships arriving in France. Without better co-ordination direct loading

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19. WO 95/3952, *IGC, War Diary, January 1915*, Maxwell to Robertson, 3 January 1915, entry 1005

would have failed. However, Maxwell used its threat as a goad. He went on to say that Dunkirk was the key. Given access to Dunkirk, he could continue to supply the Army using current methods; if the French denied them access, or, it must be presumed, if Robertson did not force the issue, direct loading would become the only viable option, as the projected force would require 4,400 tons of food and forage per day. The somewhat ironic nature of these discussions between IGC and CGS is revealed by the fact that, as Figure 3:1 showed, the BEF exceeded Cowans's projected 727,000 man strength in France during August. The IGC achieved this without direct loading in part by making much better use of existing ports and in large measure by getting access to the additional ports and wharfage for which he had campaigned so hard. The IGC and QMG also decided that, while the two lines of communication Maxwell proposed would be required, only one IGC would actually be needed. He would control both lines - a most pragmatic and sensible decision. This resulted in the Northern and Southern Lines, and GHQ split up the IGC's headquarters personnel to staff these new lines.

Aided by a static front and the continued use of pragmatism, the QMG and IGC made substantial logistical improvements that increased their effectiveness in supplying the troops while simultaneously reducing the paperwork required to keep that supply flowing. In particular, they replaced a 'pull' system of supply with a standardised 'push' system supplemented by 'pull' capability. In 1914 and early 1915, the BEF used a system whereby each unit requested the supplies it would need on a regular basis - a 'pull' system. This worked well while the number of formations involved remained relatively small, but caused problems as the BEF expanded. The amount of paperwork involved led the Director of Supplies to begin to try out the idea of sending up a standard 'divisional pack' for each division and each unit within - a 'push' system of supply. The Director of Supplies began this experiment on 18 May.[20] Although it

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20. WO 95/75, *Director of Supplies, War Diary, January to December 1915*, 18 May 1915

at first appeared cumbersome, the QMG supported the concept and gave it his official approval on 18 June.[21] On 11 July, after a number of favourable reports had been returned from corps and armies, the system of divisional packing became standard in the BEF.[22] Automatic forwarding (pushing) of supplies in carefully pre-calculated quantities greatly reduced the amount of paperwork. Extra needs in preparation for anything out of the ordinary could be demanded (pulled) by formations. Things moved smoothly until formations became depleted of manpower, or of a non-standard size. Changes or serious casualties would clearly cause problems as the new system had a patchwork element to it, covering existing flaws without fully solving the root problems. Fortunately, the stable front helped the BEF to cope with both the tremendous expansion and the problems of a patchwork system.

By mid-summer, Cowans had begun complaining to the CIGS, no doubt on Maxwell's behalf, about this patchwork system because he realised how seriously limiting it could prove to the BEF. As a result of casualties, a number of units had not been formed according to establishments. He stated:

> owing to the sedentary situation a patchwork system may meet the case, but not if any advance of retirement be necessary. I am convinced the present organization would not have stood the strain of the retreat from Mons.[23]

He continued by elaborating the difficulties such a system created in the field, writing:

> take a Brigade for instance, an ASC Company is organized to supply the four battalions, but if you add two or three battalions it does not in any way meet the case to add a few vehicles, as the officers, NCO's and personnel are not forthcoming to ensure the arrival of supplies. If the reply to such criticism is made that six battalions, being weak ones only equal the normal four in numbers, the maintenance reply is, 'Yes, but you have all the additional regimental transport behind, which is blocking your roads and idle' ... It is far better to bring such (skeleton)

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21. Ibid., 18 June 1915
22. Ibid., 11 July 1915
23. WO 107/15, Cowans to CIGS, 1 July 1915

> units out altogether and re-make them, but do let us keep our four battalions a Brigade.[24]

Cowans's complaint illustrates the problems that the BEF faced as they tried to maintain strength in the line while coping with expansion. Cowans was not alone in his concern. In early summer, the Director of Supplies and Transport wrote:

> I do not think that anyone with any knowledge of the administrative services and maintenance of an army will contradict the statement that had our forces then [during the Battle of Mons] been organized as they are at present, there is little doubt that the disasters which we then suffered would have been infinitely greater owing to the difficulty of supply both as regards food maintenance and ammunition.[25]

When the Director of Supplies and Transport wrote this, the BEF was over 600,000 men strong, so many of the units and formations added to its strength over the previous months must have been slotted in to formations without any consideration of the problems they created. Given these difficulties, which can only have been exacerbated by the change to divisional packing, it is somewhat of a surprise that such a system was created. When the amount of paperwork involved in the 1914 methods is considered, however, perhaps it is not such a surprise that the pragmatic nature of the administrators latched on to the eminently sensible divisional pack - the legacy of the Army's inherent pragmatism which, while hindering operational ideas, worked very well for administration.[26] Due to the stationary nature of the war, the problems faced by the patchwork system, and by the expansion of the BEF, proved troublesome, but less than had the war been fluid. Furthermore, the BEF had more serious problems on their hands. The first of these was a shortage of officers.

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24. Ibid.

25. Ibid., S S Long to Cowans, 24 June 1915

26. The officers charged with maintaining the BEF's lines of communication were lucky in that they had no 'sacred cows' to overcome. Unlike those officers attempting to figure out a method for dealing with the trenches without eliminating the BEF's attachment to the glamour of cavalry and the breakthrough, supply officers were free to utilise practically any means to move supplies, as long as the system's efficiency did not suffer.

The heavy casualties of 1914 meant that the BEF desperately needed trained officers and had to make several decisions regarding the redistribution of administrative officers. By July, there was some concern over the lack of trained staff officers in combat formations and the IGC was asked to see who he could release from administrative duties. The heavy casualties of 1914 had taken a serious toll on the officers of the BEF.[27] As officers, whether combat or administrative, take a great deal of effort to train properly, and because administrative officer casualties had been far fewer than combat officers, the administrative echelons offered the only source of substantial numbers of fully trained officers in the BEF - Britain having been depleted in August 1914. The operations side of GHQ and the BEF had an interest in getting capable officers into the fighting branches, but this often meant the administrative side might lose men whose expertise made them extremely valuable. For example, the IGC wrote the BEF's AQMG (Assistant Quartermaster General) in November that:

> only the Bases at Havre, Boulogne, and Rouen have the full establishment [of officers] ... the only immediate reduction that can be made is in the AMLO's [Assistant Military Landing Officer] Staff at Calais. Three AMLO's are sufficient for this port and one will be consequently ordered to Havre to fill in a vacancy ... with the possible exception of one or two, the officers employed as AMLO's are not Medically fit for the front.[28]

Here, we have the ludicrous situation of the IGC having to put up a fight in order to maintain his bases at *below* their establishment of officers - surely an officer with experience as an AMLO would be more useful at a base port than in the front lines.

Naturally, General Clayton responded in a luke-warm fashion to suggestions that he release experienced administrative officers for the front lines instead of keeping them doing valuable work in rear areas, but he had to fight against a system that devalued administration in favour of operations and command. He did not want to start

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27. *Statistics*, 253, offers the following totals for 1914: 1,278 deaths from all causes, 2,209 wounded and 783 missing for a total of 4,270 officer casualties and represents over fifteen percent of the total number of officers available to the British Army in 1914 (*Statistics*, 234).

28. WO 95/42, *AQMG(Personal Services), War Diary*, 15 November 1915

the practice of pulling officers off of the line of communications to replace casualties in combat units, stating in a letter to Sir John Cowans that:

> We are doing fairly important work, I think you will agree, supplying the huge army without a hitch, and it is a rather dangerous experiment to go and take away all the important trained men when the smooth working of the show is due to the fact that they have learnt their job, and know exactly what to do. To send out men and expect them to pick up in a month what others have taken ten months to learn, is asking, in my opinion, a little too much.[29]

Clearly, Clayton was most unhappy. At that moment (8 July) he was about to lose three of his most important Base Commandants. He concluded ominously, 'We shall carry on whatever happens, and make the show go, but you will certainly be trying us a bit, and there is always a breaking point.'[30] What Clayton was hinting, but never actually came out and bluntly stated, was that good administrative officers were probably more valuable to the BEF doing 'safe' administrative work on the line of communications than they would be in field commands and, until the administration had been sorted out, the BEF could not expect to succeed in their goal of advancing. Cowans's response clearly indicated the growing pains the British Army and BEF were experiencing, even if only partially. He stated, '[t]he real truth is we are getting jolly hard up for good officers to do any of these jobs, particularly commanding Brigades in the field.'[31] While the BEF needed officers at all levels, Brigade command should not have been as important as solid administration. Until GHQ's administrative echelons had been properly sorted out, no amount of desire, planning, offensive spirit or wishful thinking could move the lines forward.

Had a substantial cadre of experienced officers been retained in Britain in 1914 this might not have been so serious a problem because, while the original BEF would not have been as well officered as it had been, a cadre of officers would have evened

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29. WO 107/15, Clayton to Cowans, 8 July 1915

30. Ibid.

31. Ibid., Cowans to Clayton, 11 July 1915

things out and brought up the standards of the officers in action in 1915 and later. As this had not been done, officers had to be found from all possible sources - though it must be noted that the pool of officers available in 1914 would not have been sufficient in any case. Unfortunately, finding administrative officers did not prove easy in part because the attitude of many British officers towards staff work and its instruction it remained backwards. This came about because of a belief that combat remained the measure of the soldier, thus, rear area officers were something to be looked upon with disdain. An example of this can be had from J T Burnett-Stuart who wrote shortly after Loos:

> to my dismay I was ordered to GHQ to run a course to train selected officers for the staff, which was becoming depleted . . . When it was over, I was told to start another one. I applied passionately to be released (to a combat command); but all I got for my pains was an appointment as Brigadier-General in the General Staff branch at GHQ known as O.(b) which dealt with war organisation, armament, the formation of new units and so on.[32]

Such an attitude proved most unfortunate for the BEF. Here we have an officer assigned to the operations side of GHQ showing himself to be disappointed in his posting, preferring the action of combat; and yet he likely had a far greater impact on the BEF's war effort by training staff officers and in his post at O.(b) than he could ever have had in a combat command. The BEF never fully overcame this problem, and their difficulty in finding or training sufficient officers remained for the rest of the year and for much of the war.

In November, paradoxically but not really to any great surprise, the BEF felt the shortage of trained administrative officers. The QMG responded by suggesting, after consultations with the AG, that:

> the Staff Captains of Brigades are the best source from which to obtain young staff officers. They have been in close touch and sympathy with the men in the trenches and know their needs and difficulties, a most valuable qualification for a staff officer.[33]

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32. *Burnett-Stuart Manuscript*, 76, Burnett-Stuart Papers 3/6/6, LHCMA

33. WO 107/15, Maxwell to Cowans, 7 November 1915

Further, Maxwell saw no advantage to using new officers on Base staffs prior to being sent to the front, as base work was quite specialised and there might be significant disruption to the work on the Bases with no real gains.[34] Cowans was quite happy with this suggestion because it meant the supply of officers for the front would be undiminished, but this did not solve the problem either because the shortage of administrative officers remained.[35] Before the end of the year, Clayton was again worrying about the pulling of officers off the line of communications; writing that he thought it:

> a pity that every Regular ASC officer has to be removed from the staff of the L[ine] of C[ommunications] of the largest army we shall ever be likely to put in the field. There are in my opinion ASC officers on the Staffs of some of the formations at the front that could very well be spared, where they have at the present moment little or nothing to do, nor all through the winter. It is quite different on the L[ine] of C[ommunications]; we have to put in about 14 hours work every day, and it does not matter to us whether the Army is moving or not, the work is the same.[36]

In fact, Clayton stated that the work load might actually have been heavier during times of inaction, because the units in the line thought of all manner of things to ask of the line of communications.

Few solutions existed for this problem. A partial and highly practical solution to the lack of staff officers had been suggested by the Director of Supplies (Clayton at that time) as early as late October 1914. He felt that civilians from large firms, such as Harrod's, might be either loaned by their firms or enticed into volunteering by the provision of either warrant officer or temporary officer rank.[37] Many civilians from

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34. Ibid., Maxwell to Cowans, 7 November 1915

35. Ibid., Cowans to Maxwell, 9 November 1915

36. WO 107/15, Clayton to Cowans, 4 December 1915

37. WO 95/74, *Director of Supplies, War Diary, October 1914 to January 1915*, 27 October 1914: see also 18 and 21 November 1914, and 1 January 1915 in WO 95/74; and WO 95/75, *Director of Supplies, War Diary, January to December 1915*, 1 January 1915

such large firms possessed practical experience in moving consumer goods around Britain (and around the world) in a timely manner. In addition, the employees of the numerous British railway firms had practical expertise in moving freight and passengers in a timely manner around Britain.[38] These former civilians could be used in essentially the same roles in France as they had filled with their firms in Britain. Their age would not necessarily be a handicap and in fact might have been advantageous as an older, experienced civilian could free a man of serving age for front line duty. What they lacked was military experience, but military requirements could be taught more easily than the effective distribution of materiel. This attitude is exemplified in a request from the Assistant Director of Supplies at Calais (Lieutenant-Colonel Cannot) for the services of Captain G Matthey, 28 Divisional Train, at the base supply depot, 'as this officer has much suitable business experience which would be valuable in a large Depot.'[39] While there is no evidence to suggest that this had been carried out, it is clear that the idea that former businessmen could help administer the BEF had taken hold.[40] It would be quite some time, however, before GHQ and the War Office fully realised the stress, strain and value of work on their lines of communication. In essence, the BEF had discovered a source of officers and warrant officers that would provide the same benefit as would have occurred had thousands of men been seconded to such firms prior to the war, but tapping that source took time. The fact that young men might be freed for front line duty by the employment and temporary commissioning of civilian expertise did not mean that it could occur

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38. WO 95/64, *Director of Railway Transport, Royal Engineers, War Diary, October 1914 to February 1916*, letter in file C-in-C to Secretary of State for War, [?] January 1915: suggests that the French practice is to take their railwaymen and put them in uniform and wants to do the same with English railwaymen.

39. WO 95/42, *AQMG(Personal Services), War Diary*, 2 June 1915

40. Cf WO 95/3950, *IGC, War Diary, 1 to 15 November 1914*, IGC to AG, 6 november 1914: the IGC requested 42 skilled civilians (engineers and surveyors) to replace RE officers, landing officers and railway transport officers on the line of communications.

overnight, however, and the BEF still needed young men at a ferocious rate. Clayton's move to the post of IGC opened this possibility up even more, as he found himself in the position of being able to do this. 27 October 1914 might be seen as the date on which the BEF began to realise that they had a large pool of talent in Britain that, if put in uniform, would represent the same effect as having sent large numbers of regular officers to civilian firms to learn administration.

An additional problem was the age-old one of attempting to determine in peace time how an officer might perform in action, and this applied to officers in all positions, both staff and command. As Archibald Home wrote:

> It is curious how and what Officers are made from in war ... [there is an] old saying that war makes men ... what is good in war is not always good in peace, on the other hand what is good in peace helps towards war.[41]

W N Nicholson also wrote of this fact, that, 'it is not possible in peace to gauge with certainty the war time qualities of any officers.'[42] This applied primarily to the selection of combat leaders from civilians but it also applied to their selection from administrative positions. Likewise, it was also difficult to ascertain a man's ability to cope with administrative duties. A good administrative officer might become a good combat officer, or he might not, and the same held true the other way. One could not tell, except by using them and this naturally raised the difficulty for both the administrative and combat echelons - a 'green' combat commander might affect tens of men, while inexperienced administrators could affect many more. It also raised the question of professional versus amateur officers. Nicholson felt that the best combination on a staff was the trained Regular officer with [an efficient civilian].'[43] While Nicholson had combat formation staffs in mind at the time, this statement is

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41. Archibald Home, *The Diary of a World War I Cavalry Officer* (Tunbridge Wells, Kent: Costello, 1985), 24 to 27 March 1915, 61.

42. Nicholson, *Behind the Lines*, 146.

43. Ibid., 183.

equally applicable, possibly more so, in administrative staffs, since such a set-up allowed for the maximisation of the knowledge of both. He also saw the Regular staff officer as, 'a sheet anchor in a New Army formation.'[44] In fact, Nicholson was probably very close to the mark in his assessment, particularly for administrative positions. A staff of civilians with expertise, but no military experience, leavened with professional staff officers with military experience, but perhaps no expertise in moving large quantities of materiel, would be a very solid one.

Concurrent with the preparations and planning for Neuve Chapelle, a very important discussion had been taking place regarding the Bassin Loubet (one of the docking basins in the Port of Boulogne) which might radically alter the way in which the BEF operated that port and test just such a mix of civilians and military men. As early as 9 January, the QMG had indicated that he felt the Bassin Loubet, including the railways, needed to be under some sort of central administration.[45] This may have been prompted by the Director of Railway Traffic's comment to his Deputy that insufficient use was being made of the South Eastern and Chatham Railway Company's (SE&C Railway) personnel, 'who have practically been placed at our disposal by Mr Dent, General Manager.'[46] At the time, the Royal Navy had control of shipping up to and while vessels were docked in Boulogne, workers in the port unloaded the ships under the direction of British officers, while the railways were controlled by the French railway authorities. This led to inefficiency, as ships

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44. Ibid., 183.

45. WO 95/3952, *IGC, War Diary, January 1915*, QMG to IGC, 9 January 1915, entry 970

46. WO 95/3976B, *Director of Railways, War Diary, October 1914 to July 1916*, DRT to DDRT, 12 November 1914, Appendix to December 1914. F H Dent, later Sir Francis Dent, had been a member of the Railway Executive Committee formed in 1912 to prepare to nationalise Britain's railways in time of war. Other notable members of the Committee were Sir Sam Fay, of the Great Central Railway, and Sir Guy Granet, of Midland Railway. Another well known railway executive involved in wartime administration was Sir Eric Geddes, of the North Eastern Railway.

unloaded, while trains both loaded and re-marshalled simultaneously at the port.[47] Robertson also favoured using Francis Dent's services to aid the Base Commandant in Boulogne.[48] Dent was actually a civilian at the time of the discussions, yet the administration of the BEF was not put off by this fact. Rather, they took the pragmatic approach that the SE&C Railway had worked extensively with French Railways (particularly the Nord Railway system that served much of the BEF's area) prior to the war, and that the approach was worth trying if it increased the efficiency of the Bassin Loubet. The discussion proceeded through various channels and concluded on 23 February with the Commander-in-Chief writing the Secretary of State for War to suggest that the SE&C Railway control the Bassin Loubet. On 25 February, the IGC also wrote Kitchener to ask that Dent be empowered to act as the War Office's agent in Boulogne.[49] In spite of the urgency of the request, the War Office delayed, possibly out of unwillingness to use civilians in such a fashion, and possibly because they did not fully understand the administrative issue and the BEF's need for a prompt response. This forced the IGC to raise the issue again on 5 March. The War Office did

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47. *BOH(Transportation)*, 91.

48. WO 95/3952, *IGC, War Diary, January 1915*, QMG to IGC, 9 January 1915

49. WO 95/3976B, *Director of Railways, War Diary, October 1914 to July 1916*, Commander-in-Chief to The Secretary of State for War, 23 February 1915, Appendix to March 1915; WO 95/3953, *IGC, War Diary, February 1915*, IGC to the Secretary of State for War, 25 February 1915, entry 1393. For the various discussions, see: WO 95/3953, *IGC, War Diary, February 1915*, IGC to Base Commandant (Boulogne), 1 February 1915; IGC to the Secretary of State for War, 4 February 1915; QMG to IGC, 7 February 1915; IGC to Principal Naval Transport Officer (Havre), 16 February 1915; *Proceedings of 2nd Meeting of Committee on Mr Dent's Scheme Held at Boulogne on 15th February 1915*, entries 1094, 1142, 1187, 1240.

not inform him until 16 March that the Army Council had approved the scheme.[50] This, combined with physical improvements at Abbeville, Abancourt, and Boulogne, eased the worst of the supply difficulties - though the improvements were not to be fully completed until May.[51] Ultimately, the BEF did not carry through with the permanent use of the SE&C Railway personnel under complete civilian direction at Boulogne. GHQ made this decision, not because of inefficiency on the part of Dent's men, but because they did not think it advisable to fully entrust wartime supply from Boulogne to the SE&C Railway, with its civilian managers, and civilian labour[52] - apparently a case of anti-civilian phobia. The BEF's senior officers feared that the SE&C Railway personnel might prove unable to supply the demands of the war because they had no experience of warfare. In fact, although the SE&C Railway had been a predominantly passenger line prior to the war,[53] the BEF ignored the fact that no one in the British Army had practical experience of the new type of warfare either.

The new type of warfare placed great demands on the lines of communications. Early on in the preparation for the Battle of Neuve Chapelle, Rawlinson (GOC, IV Corps) recognised the vital importance of artillery, and helped to push the BEF towards

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50. WO 95/3954, *IGC, War Diary, March 1915*, IGC to The Secretary of State for War, 5 March 1915; B.B. Cubitt (War Office) to Commander-in-Chief, 15 March 1915 forwarded by QMG to IGC, 16 March 1915, entries 1519, 1641; RAIL 633/38, *SE&C Railway Companies Management Committee*, Minute Book No.18, Point 8437.

51. WO 95/3954, *IGC, War Diary, March 1915*, IGC to QMG, 9 March 1915; IGC to QMG, 29 March 1915, entries 1533, 1808

52. *BOH(Transportation)*, 91-2; WO 95/75, *Director of Supplies, War Diary, August 1915*, 25 August 1915 indicates that Mr Dent's scheme had not worked out as well as hoped and that a return to the old method was desirable, but no indication that the return was undertaken; WO 95/3961, *IGC, War Diary, October 1915*, IGC to QMG, 13 October 1915 indicates that a change may have taken place in early October; while RAIL 633/40, *SE&C Railway Companies Managing Committee*, Minute Book No.19, Point 9141 indicates that the SE&C Railway ran the port until the end of 1915.

53. Pratt, *British Railways*, 1074.

an artillery intensive, and line of communications intensive, operational system.[54]

Having experimented with destroying a German trench opposite I Corps, Haig (First Army) passed the findings on to Rawlinson, who concluded that an overall bombardment of 45 minutes, followed by a barrage, and including a large number of heavy howitzers (6"), would succeed.[55] Indeed, the Battle of Neuve Chapelle largely succeeded on the first day, though the follow-up effort aimed at Aubers Ridge did not, because of Rawlinson's decision 'to use artillery to crush the German defences' in line with his bombard and storm ideas which left his Corps with little in reserve to follow-up the initial success.[56] Ironically, 'Rawlinson's dictum of "bombard and storm" would be validated by his own attempt, consequent upon early success, to disregard it.'[57] The reason for the irony will become clear: while Rawlinson had hit upon the basic methodology which would work in later years, the BEF had begun a period of the war where they quite simply lacked the materiel (ammunition, other supplies and manpower) to repeat the success of Neuve Chapelle. From an administrative perspective, Neuve Chapelle represents three things: first, it was one of the largest offensive battles fought by the British since Waterloo; secondly, the battle witnessed an attempt by the AG to speed up the reporting of casualties by setting up an advanced report centre in the battle area;[58] and thirdly and most importantly, Rawlinson's operational system would eventually evolve into the successful operational system of 1918 - one that placed enormous demands on the lines of communications to supply artillery. Although the AG did not prove completely successful in his goal of speeding

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54. Prior and Wilson, *Command on the Western Front*, 25.

55. Ibid., 30.

56. Ibid., 55. See 44-52 for a description of the first day's battles, and 53-67 for the next two days.

57. Ibid., 70.

58. WO 95/25, *AG Branch, War Diary*, 6 March 1915

the report of casualties so that replacements could be rapidly sent to units, the advanced centre represents one of the last times that the AG actually took direct control over such minutiae - his job, and that of the QMG and all senior commanders had begun to expand far beyond that.

Throughout the battles of 1915, munitions shortages played a significant role in constraining the BEF's ability to attack and defend which illustrates the importance of administration to military operations. The crippling nature of the ammunition shortage can be seen from Haig's First Army. On 7 February his 9.2" howitzer, nick-named 'Mother' fired a mere 91 rounds to good effect. However, this represented thirty percent of the ammunition available for that gun, so it brought a letter four days later from Robertson, the CGS, asking why so much had been expended. Haig's frustration is evident from a diary entry of the same day, where he wrote, 'we certainly are badly supplied with all descriptions of gun Ammunition. The 4.5["] How[itzer] which is our most useful field howitzer is reduced now to less than five rounds a day.' A month later, after Sir John had approved of Haig's Neuve Chapelle follow-up plan but delayed it due to ammunition having been sent to the Dardanelles, Haig wrote, 'this lack of ammunition seems serious. It effectually prevents us from profiting by our recent success and pressing the enemy before he can re-organize and strengthen his position.' In this Haig had a sound observation, for the shortage had clearly begun to bite. Four days later, having been informed by Robertson that the shortage would likely continue, he asked, 'how can we order Officers Commanding Corps to "press on with vigour", and at the same time say "mind you must not expend more than 7 rounds a gun in a whole day!"'[59] Indeed, how could the BEF expect to succeed when such restrictions existed?

As a direct consequence of the ammunition shortage, the QMG had drastically reduced Second Army's ammunition allotment during First Army's preparations for

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59. WO 256/3, *Haig, Diary*, 7 February, 9 February, 16 March and 20 March 1915

Neuve Chapelle, on 8 March, and opened an extra ammunition railhead for First Army at Fouquereuil. The QMG, Director of Railway Transport, and Deputy Director of Ordnance Services had worked very hard on arrangements to supply the ammunition required for Neuve Chapelle. The IGC had been informed of the attack, had arranged an extra fifty-two wagon ammunition train for First Army, and amassed an extra hundred ammunition wagons at Boulogne, leaving seven trains empty and ready to move an infantry battalion each from one flank to another.[60] Yet all this effort only allowed the artillery to expend a total of 1,546 tons of ammunition over the six days of battle, roughly half being used on 10 March.[61] Later in the war, this kind of expenditure might be expected from a single division rather than an army, and this underscores just how much lack of ammunition restricted the BEF. While the BEF was not to blame because they had no control over the production of ammunition, it is part of the bigger logistical picture because weak links, in this case industrial output, greatly hindered the BEF. Indeed, during the active operations of Neuve Chapelle, Robertson wrote Brigadier-General R H K Butler (BGGS, First Army) and asked him to:

> strictly control the ammunition. It is just as important a factor as men. There have been several artillery bombardments today for infantry assaults which have never taken place.[62]

While later in the war the use of false attacks, to get the Germans to reveal their counter-barrage plans, would become a standard part of preparation, the BEF needed every shell at this point in the war to support its attacks - far from ideal as it meant that any substantial use of shells by the BEF presaged an attack. Even so, Robertson also indicated his willingness to get supplies up to Butler, stating, 'You shall have

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60. WO 95/27, *QMG Branch, War Diary, March 1915*, 8 and 10 March 1915

61. *Artillery Ammunition*, 27 June 1915, Robertson Papers I/5/12, LHCMA

62. Robertson to Butler, 12 March 1915 (copy), Edmonds Papers II/1/107, LHCMA

everything there is in due course when you want it, and after you have gotten through your own lot.'[63] Nor was it just artillery ammunition that was short as, by 11 March, the BEF had fallen short by twenty-two million rounds of small arms ammunition in front of the railheads. By 13 May, this shortage reached 31,886,000 rounds, or one hundred per rifle. At a time when the establishment of small arms ammunition on the line of communications alone should have been two hundred per rifle,[64] this must have caused considerable unease, all the more in the BEF which had been trained to fully utilise the rifle.

The ammunition problems continued to worsen; for example, the Festubert action in May only used 1,800 tons of ammunition over the course of twelve days preparation and fighting, over half of that on 8 and 9 May,[65] while on 8 May, Rawlinson's IV Corps (of Haig's First Army) failed in their attempt to seize Aubers Ridge overlooking Neuve Chapelle. A significant reason for the failure is the relatively light weight of shell which supported the attack. The attack failed before it ever started because 'Haig and Rawlinson failed to apply at Aubers Ridge the principles of bombardment established at Neuve Chapelle.'[66] Even the slight support provided by the guns at Aubers Ridge, however, had strained the BEF's ammunition stocks to near breaking point. Haig noted in his diary on 10 May that he had a letter from the CGS (which must have been written on the 9th) which said:

> if yesterday's expenditure is kept up we shall run out of ammunition on the lines of communication as follows:
> 18-p[ounde]r after 3 days;
> 4.5" How[itzer] after 2 days;

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63. Ibid.: emphasis in original

64. WO 95/27, *QMG Branch, War Diary, March 1915*, 11 March 1915

65. *Artillery Ammunition*, 27 June 1915, Robertson Papers I/5/12, LHCMA

66. Prior and Wilson, *Command on the Western Front*, 93. See 77-93 for a description of the planning failures and battle itself.

6" How[itzer] after two days;
9.2" How[itzer] after three days.[67]

Clearly, while Haig and Rawlinson had, indeed, erred in missing, or at least misplacing, the lessons of Neuve Chapelle, they did not have the capacity to provide Neuve Chapelle's intensity of fire and should not have attacked until they could. In a masterpiece of understatement combined with over-optimism, Haig continued his diary entry by saying that 'owing to ammunition being somewhat short ... I decided to concentrate all my efforts on breaking the enemy's front south of Neuve Chapelle.'[68] However, his hopes proved fruitless as by 27 May, having planned further attacks, he wrote, 'judging by a return of ammunition on the lines of communication which the CGS sent to-night, it is a waste of time to make plans!'[69] Given the crippling shortage of shells, it should be no surprise that the lessons of Neuve Chapelle had been missed.

The tiny scale of usage allowed by GHQ, and caused by the lack of shells in France rather than poor administration on the line of communications, is truly pathetic when compared to later actions, such as Passchendaele in 1917, when the Canadian Corps alone used 40,908 tons and over one million shells between 17 October and 16 November.[70] Figures 3:2, 3:3, and 3:4 illustrate just how far below the established values for field artillery ammunition on the line of communications the BEF had become and remained.[71] Each field artillery piece (13-pounder and 18-pounder) should

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67. WO 256/4, *Haig, Diary*, 10 May 1915

68. Ibid.

69. Ibid., 27 May 1915

70. *Canadian Corps Ammunition Expenditure - Passchendaele* and *Ammunition Allotted to Canadian Corps - Passchendaele.* In both RG24, Volume 1831, GAQ 8-7 and RG9 III C1, Volume 3852, Folder 65, File 1, National Archives of Canada.

71. Figures 3:2 and 3:3 have been created using numbers from WO 95/3951-3959, *IGC, War Diary* for the months December 1914 to August 1915, while Figure 3:4 represents the data from the other two figures combined with the 'establishments' for each type of gun.

have had 1500 rounds per gun in the theatre, rising to 2000 in February. The 4.5" howitzer should have had 1200 rounds per gun, and 1600 in February, and the 60-pounders should have had 800 rounds per gun on the line of communications alone throughout the period illustrated.[72] Only the 60-pounders ever exceeded their establishment, and then only for a very brief two to three week period in late April to early May. The BEF faced a critical and crippling problem.

Such heavy expenditure as the Canadian Corps later used at Passchendaele remained completely out of the question in 1915. In June, Robertson wrote a memorandum stating that the ammunition problems were not unanticipated, citing Brackenbury's difficulties as Director General of Ordnance in the South African War, and Kuropatkin's in Manchuria. He also stated that it was no surprise that the ammunition had been used at such a fast rate. Finally, he was very concerned as expenditure was far exceeding receipts. As a result, the BEF could only contemplate an offensive after a period of careful rationing of expenditure.[73] This occurred at a time when the French desperately wanted the BEF to take over more frontage, which must have led to still greater usage and an even lower daily ration. In 1915 a number of actions, notably Aubers Ridge and Festubert, forced the CGS, 'to report to the Commander-in-Chief - to use the phrase current at the time - "the battle must now cease" for lack of ammunition.'[74] This, however, does not represent a failure of GHQ's administration because they could not send what they did not have.

The problem, which revolved about Britain's inability to provide for the Army's needs, clearly frustrated Robertson. He wrote Clive Wigram (Assistant Private

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72. Bidwell and Graham, *Fire-Power*, 96 for the field artillery and howitzer establishments; WO 95/3951, *IGC, War Diary, December 1914*, QMG to IGC, 5 December 1914, entry 706 for the 60-pounder figure.

73. *Memorandum on the Supply of Artillery Ammunition to the Army in the Field, 10 June 1915*, Robertson Papers I/9/4, LHCMA

74. *BOH (1915, 1)*, 37.

Secretary and Equerry to the King) in July that discussions on the question of whether the BEF should adopt an offensive, or defensive posture in France had become, 'quite unnecessary because the ammunition supply definitely settles the question.'[75] He continued, observing angrily, that the Germans suffered no shortage of ammunition; but sent large quantities in to British positions daily, finishing with the plaintive comment, '[a]nd so we live on longing for more ammunition.' Tens days later, in another letter to Wigram, he added the postscript, 'We have not had one round of H[igh] E[xplosive] 18-p[ounde]r for the last fortnight.'[76] Archibald Home, a cavalry staff officer, shared Robertson's frustration. Home wrote that he had, 'heard that the Germans can turn out 250,000 shells a day - the French 120,000 - we turn out?'[77] While probably an exaggeration because the complaints about shell shortages cropped up in every army,[78] his words give the sense of frustration he must have felt, as does his diary note of 26 June, which read, 'We are doing nothing here, why? Want of ammunition I suppose and the Dardanelles show takes up a great deal of that.'[79] As a result, the BEF had to adopt the defensive in France, because they could not support serious offensive action.

The combination of world-wide expansion of the British Army, and inefficient munitions production at home meant that by August GHQ was in the position of only having 1.18 million artillery rounds available in France, of which 71.7 percent were 18-pounder shells. Further, of the 18-pounder ammunition, only 4.4 percent was high

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75. Robertson to Wigram, 27 July 1915, Robertson Papers I/12/19, LHCMA

76. Robertson to Wigram, 6 August 1915, Robertson Papers I/12/20, LHCMA

77. Home, *Diary*, 24 June 1915, 74.

78. Kennedy, *Rise and Fall of the Great Powers*, 262.

79. Home, *Diary*, 26 June 1915, 74.

explosive. The remainder was shrapnel, 'and therefore not of much use.'[80] Clearly, the shell shortage was crippling the BEF's ability to fight. Things were looking up slightly for the artillery by September, as just prior to Loos, Maxwell informed Cowans that he could 'send up 1,500 tons of ammunition daily, when serious fighting is going on, from Boulogne'[81] - a clear, if subtle, request for additional ammunition. It was easier, however, to send the ammunition up than to deliver it to France in the first place, because the shells were simply not being manufactured in the quantities required. Figures 3:2, 3:3, and 3:4 have shown that the main field artillery pieces remained well under what pre-war estimates had considered to be their optimum number of shell per gun throughout the year. However, once deliveries from Britain began to increase late in the year, the Ordnance Services on the lines of communication faced no barriers to efficient delivery to the front. As previously mentioned, the crisis did not confine itself to the artillery.

By April the BEF had only 137 rounds of small arms ammunition per rifle on the line of communication, so the problem was not confined to artillery. The situation worsened and must have caused great concern to an army trained to use the rifle to the degree that the BEF had been until, in May, only 100 rounds per rifle remained on the line of communication. By September the BEF had reached 133 rounds per rifle on the line of communication - still well below the requirement.[82] On 27 September, GHQ urged the War Office to despatch 43 million rounds of small arms ammunition immediately, in addition to the 20 million they had promised weekly, in order to try to get 100 rounds per gun on the lines of communication; this was only half of the wartime establishment for them. Finally, GHQ asked the War Office to send an

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80. Robertson to Wigram, 11 August 1915, Robertson Papers I/12/23, LHCMA

81. WO 107/15, Maxwell to Cowans, 12 September 1915

82. WO 95/3952-3963, *IGC, War Diary, 1915*, IGC to The Secretary of State for War, various letters throughout 1915

additional consignment of 54 million rounds as soon as possible as an attempt to get the establishment of 200 rounds per gun on the lines of communications[83] - far from the best way to try to fight a war. The volume of correspondence on ammunition problems makes up a significant portion of the IGC's official war diary for 1915. Some three to four letters per week were sent to the War Office detailing the BEF's ammunition reserves, the late arrival of shipments, and critical shortages caused by heavy fighting.

Even as GHQ tried to solve its ammunition problems, it faced the difficulty of the pending arrival of New Army divisions. While the War Office would not commit to a specific date, GHQ, and particularly the IGC and QMG, needed one so as to begin the arrangements for its administrative expansion. A General Staff note of 14 March stated:

> We are daily receiving reinforcements and presumably may expect the first of the New Armies to begin arriving in early May. It is therefore time that plans for the dispositions and employment of these additional troops were formulated. In fact the roads and the billeting accommodation in the zone we at present occupy are already used up to what is nearly the limit of their capacity. Any material increase in the numbers of our forces in the field must of necessity be accompanied by a corresponding widening of the area allotted to us.[84]

They went on to argue in favour of an expansion of the BEF's frontage to the south because of the difficulty of campaigning in northwest Belgium. In light of a British reluctance to take on a wider front, an issue that dominated Anglo-French relations during this period, the argument in favour of a southward expansion is interesting because of its administrative ramifications, which received short shrift.

Anglo-French discussions at this time largely ignored administrative issues such as crossed, indeed tangled, lines of communication and a growing operational-administrative split at GHQ while focusing on operational and strategic questions that would not become relevant until the administrative problems had been sorted out. As

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83. WO 95/27, *QMG Branch, War Diary, September 1915*, 6 and 27 September 1915

84. WO 158/17, *General Staff Note on the Situation*, 14 March 1915

early as mid-January, General Joffre (Sir John's opposite number at GQG) had written the British commander asking that the BEF take over a portion of the French line on 9th and 20th Corps' fronts.[85] He feared that the Germans were preparing an offensive and, with French forces stretched rather thin, he wanted to form a reserve. In addition, should no German offensive materialise, the reserve would enable him to attack. The focus on the strategic and operational levels of war in the talks, and the lack of attention paid to rear area services greatly inconvenienced by crossed lines of communication, illustrate the operational and administrative split at GHQ, and even in the minds of the French commanders. For example, Joffre wrote:

> In order to defeat the enemy we must have reserves. In consequence of the enormous front that is being held by the French Army these reserves can only be drawn from the neighbourhood of Ypres and made available by the arrival of British reinforcements.[86]

While true, it is clear that Joffre did not consider administrative matters worth mentioning. At a meeting at Chantilly on that day, the two Commanders-in-Chief agreed that the BEF would relieve 9th and 20th Corps as soon as reinforcements permitted - early March was forecast - and Sir John agreed to Joffre's keeping French troops on the BEF's left, though only a division plus its territorial support.[87] Despite the cordial tone of these discussions, cracks in the relationship soon appeared.

In mid-February, GHQ's dual nature became more apparent. At this time Joffre again wrote to Sir John, this time to advise him that he proposed an offensive in the west and wanted Sir John's views. Joffre went on to state that he felt the unity of command on the sector between la Bassée and Lys meant that I Corps should not be relieved by French troops. In return Joffre proposed to keep a portion of the front

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85. French nomenclature used roman numerals to identify armies, and numbers for corps. This will be followed in the text wherever French formations are referred to.

86. WO 158/13, Joffre to French, 21 January 1915

87. Ibid., Meeting, Joffre and French, at Chantilly, 21 January 1915

occupied by 20th French Corps. Finally, he suggested that the division originally intended for the British left flank might be better employed as a reserve behind the British and Belgian armies.[88] Sir John's reply consisted of two letters, the first of which agreed with the idea of an early offensive and stated that he could not relieve either 9th or 20th French Corps. In the second, he went on to say that he was planning an offensive by First Army with a subsidiary attack by Second Army. He hoped that his ammunition problems would be sorted out by then, along with the shortage of heavy guns. The decision to not relieve 9th and 20th Corps he put down to not being able to attack if he thinned his line out, and the War Office's decision to send a Territorial division rather than 29 Division to France - 29 Division had been sent to the Mediterranean instead.[89] It is clear that the problems for the IGC and QMG did not rank highly on Sir John's list of priorities, and illustrate, again, the growing duality at GHQ with operational (G Branch) concerns rating far more attention than administration - at a time when the converse should have been true. The cumbersome problem of having two French corps drawing supplies across the BEF's line of communications did not get mentioned. At the very least, one might expect to have seen some attempt by the BEF to *switch* Third Army with Xth French Army to ease the line of communications problems - even if Sir John suspected that the French would not take back line, such a proposal might have been mentioned.

Predictably, Joffre was not enamoured with French's decision regarding 9th Corps, but, again, line of communications issues did not get raised in the manner they should have been. Joffre felt that 9th Corps should be relieved after four months in the line, and that:

> the 9th Corps is in fact absolutely indispensable for satisfactorily carrying out the projected attack of the Xth Army. The latter, without the support of this Army Corps, would not have sufficient effectives to

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88. Ibid., Joffre to French, 16 February 1915

89. Ibid., French to Joffre, 18 February 1915

> undertake an efficacious operation. The relief of the 9th Corps is then the *necessary condition* of the offensive in which you have asked me to participate.[90]

Yet again, it is evident that operational concerns, in this case offensive operations, rated well before administration. Joffre went on to suggest that the BEF was not pulling its weight, observing that the French Army held seven hundred kilometres with 2.3 million men, while the BEF held only fifty kilometres with 350,000 (one fourteenth of the line with one seventh the number of troops). Sir John responded by noting that 75,000 of his troops represented convalescent, replacement, or line of communications units, and that the BEF could not expand its frontage due to the nature of the ground in front of them and their lack of artillery. In this, he was almost certainly correct, as the 'per diem' restrictions were bad enough with three armies in the line; expanding the frontage would have reduced the 'per diem' further, almost certainly too far. This represents the only mention of administrative services and concerns at the Conference and, rather than providing constructive opposition to Joffre or helping his own IGC, Sir John simply used the issue to justify holding a short line - a valid point, but not one to help British administration. Sir John also argued that, since 1 Canadian Division had been delayed, and 29 Division sent to the Mediterranean by a joint decision of both the French and British governments, the agreement reached on 21 January no longer held.[91] This must have annoyed Joffre, but he let the matter drop for a while, informing Sir John that the French Xth Army would not attack because 9th Corps had not been relieved, because the removal of British cavalry from the line had forced 9th Corps to extend their line, and because the battles in Champagne had grown unexpectedly.[92] He wished the BEF luck in their offensive and did not raise the issue

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90. Ibid., Joffre to French, 19 February 1915: emphasis in original

91. Ibid., French to Joffre, 23 February 1915

92. Ibid., Joffre to French, 7 March 1915

until the end of the month, when he again began arguing for the relief of 9th and 20th Corps as soon as it could be arranged.[93]

In all of the at times heated exchange between Sir John and Joffre the needs of the IGC and QMG, or their French counterparts, were not raised - they should have been. This illustrates the relative lack of influence that BEF administrators had at the time, since, from a purely administrative standpoint, some sort of re-shuffle of French and British positions should have come far ahead of any offensive planning. Even though rear area services exist to support the fighting services, the BEF was not in an administratively sound position to undertake significant offensive action, so the first order of business should have been to put the rear area into a better position to provide support to fighting formations. Having failed in an effort to take Aubers Ridge, in large measure because they did not have the ability to support a serious attack on Neuve Chapelle lines, the BEF finally began the relief of the two French corps in early July, at the same time as Joffre suggested that the British might try the Loos area for an offensive, as that would avoid the built up areas around Lens.[94] On 11 July, General Clive, the liaison at GQG, commented in his diary that the BEF was finally going to take over 34,000 yards from the French and stated, 'Why we can't do things with a good grace, I can't imagine.'[95] Good grace should have had nothing to do with it. The line of communications tangle should have made the relief a necessity rather than a point of such disagreement. At the very least, Sir John and Joffre should have made some effort to remove the French formations from their position astride the BEF's line of communications.

On the whole, and in spite of disagreements, the Chantilly meetings appear to have gone off well. Robertson, for example, felt that a mid-July meeting at Chantilly

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93. Ibid., Joffre to French, 24 March 1915

94. Ibid., Joffre to French, 9 July 1915

95. Cab 45/201, *General Clive, Personal Diary*, 11 July 1915

had 'passed off very satisfactorily.' He went on to encapsulate the difficulty of fighting with allies, stating:

> although nothing very definite may be settled or can be settled between the Allies at these meetings they give an opportunity for comparing notes and tend to bring the Allies closer together in a variety of ways, as well as to remove difficulties and the possibility of friction ... Allies naturally look rather askance at each other and suspect that the others are not pulling their proper weight, and therefore the more they see of each other and talk matters over the better.[96]

He felt that meeting once a month would do the Allied Powers some good. Such meetings would have let Joffre see more clearly that the BEF had been fighting as hard as they could under the constraints imposed by their expansion and associated problems. These difficulties in relations with allies, however, had given the administrative services an extra, and unwanted, problem - crossed lines of communication - at a time when they were already stretched much too far. Clearly, the situation benefitted no one, and the French Directeur de l'Arriere (roughly the IGC's equivalent) must have also been troubled to some extent. The BEF needed its rear areas sorted out as soon as possible because the New Armies were on the way and mixed-up lines of communications would cause serious difficulty when they arrived.

The New Armies posed the most difficult problem to the BEF in 1915 - the question of how to create a continental army from an Imperial gendarmerie. Unlike the French and Germans, the British had to build up a continental army from nothing while simultaneously satisfying global security problems. The divisions that made up the New Armies found themselves handicapped by a distinct lack of experienced leadership which exacerbated the difficulties on the line of communications. As Edmonds noted, the New Army divisions 'deserved and required' very skilled leadership, but, 'The brigade and divisional staffs were formed of retired officers, convalescent wounded officers, and others available at home. Fully qualified officers ... could not be

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96. Robertson to Wigram, 13 July 1915, Robertson Papers I/12/17, LHCMA

found.'[97] The use, in large numbers, of the amateur officer, could not be avoided as there simply was not a large enough pool of professionals to go around. The BEF had to hope that the amateurs proved themselves, but, 'good-will, intelligence, and capacity for work, could not compensate for lack of training and inherited experience.'[98] Loos, in September, provided the first major opportunity for the New Army divisions and exposed many of the administrative problems and strengths of the BEF.

Much has been written on Loos, and the failure of two New Army divisions (21 and 24 divisions) to carry home their attack from the reserve position they held at zero hour.[99] It is clear that the operational plan contained considerable inherent confusion. For example, Rawlinson remained unaware that the reserve corps (XI Corps with the Guards, 21 and 24 Divisions) remained under the C-in-C's command.[100] This meant he included them in his planning when he should not have. Gas, tactics and artillery have been extensively discussed in such studies, the conclusion being that all three had been inadequately provided for - not enough gas could be made available in the time allowed for preparation, and Rawlinson implicitly and erroneously assumed that his two non-regular divisions (47 and 15 Divisions, Territorial and Kitchener respectively) would perform tactically as well as the old regular divisions at Neuve Chapelle.[101] The most important observations dealt with artillery, and thus, administration. Rawlinson's plan did not have sufficient artillery to accomplish the task he demanded. Not only did he have fewer guns than at Neuve Chapelle, but he faced roughly eighteen times the

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97. *BOH, (1915, 1)*, 54.

98. Ibid.

99. A good modern account of the operations and tactics of the Battle of Loos is chapters twelve to fourteen of Prior and Wilson, *Command on the Western Front.*

100. Prior and Wilson, *Command on the Western Front*, 106.

101. ibid., 115-16 for gas, 108 for tactics.

length of trench to deal with (counting second and third line trenches and communications trenches not present in the works at Neuve Chapelle). This resulted in a ratio of one gun to 141 yards of trench, as opposed to the one gun to six yards ratio of Neuve Chapelle.[102] At Neuve Chapelle, Rawlinson had provided for three times the weight of shell to fall on each yard of wire in one-hundredth the time that he allowed at Loos, and the weight of shell per yard of trench had been four and a half times as much.[103] So comparatively feeble was the bombardment at Loos that:

> [t]he Germans, contrasting the modest British fire with that of the French to the south, concluded that an attack on the British sector was unlikely. ... The ironical outcome was that the British carried out their artillery plan free from harassing fire.[104]

Rawlinson had missed the artillery lesson of Neuve Chapelle and this, combined with severe restrictions on the use of ammunition had crippled the BEF's ability to undertake offensive operations. Had the artillery lesson of Neuve Chapelle been learned, then the BEF would not have launched Loos until they had been assured by their administration that the capability to support the use of artillery on the proportions of that earlier battle could be achieved.

The basic fact, however, is that Loos had failed long before the new divisions went forward. The BEF did not have the capability to provide the support that Loos demanded and the inexperience of the new divisions, combined with numerous other factors meant that they suffered heavy casualties, but the lack of artillery support, not these new divisions, was responsible for the attack's failure. While these new divisions were not well used by either GHQ or First Army, their deployment represented an administrative success. Not only had they been moved to France, but they had been put in the position where they could be used, while the administration

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102. ibid., 111-12.

103. ibid., 112

104. Ibid., 117.

that got them there had simultaneously coped with the increased line of communications demands of an 860,000 man BEF.

The post-Loos criticisms focused on tactical and operational mishandling, not on line of communications problems. For example, Archibald Home wrote after the battle, and after he had letters from friends who were there:

> it appears that the new troops did not do very well, they got out of hand in the attack and so went too far and of course were heavily counter attacked and came back a good deal faster than they went forward. This seems to be the difficulty. They do not know how to meet a counter attack - this is simple lack of training and I think they will be alright now after their first fight.[105]

He later wrote, 'I would at once bring out the K[itchener] armies and Territorials and *train them* out here, put them in the trenches and get them shot over.'[106] While a sound theory, the lines of communication could not have coped with Home's suggestion at that time. His comment shows, to a degree, an inherent lack of consideration of the lines of communication surprising in a staff officer. While some officers looked on the New Armies with some suspicion (in large measure the difference between the regular and amateur soldier makes this no surprise), in October Robertson noted that:

> none of the divisions in this country are anything like as efficient as they were. This point is apt to be overlooked. The so-called old divisions are very little better than some of the new ones, and this is so because of the amount of fighting they have done.[107]

In other words, the casualties of the war had resulted in an across-the-board drop in the BEF's effectiveness.

While arguing in favour of the New Armies, Home also advocated relieving the French Xth Army, which still held the line between First and Third Armies.[108] This

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105. Home, *Diary*, 29 September 1915, 85.

106. Ibid., 13 October 1915, 90. Emphasis in original.

107. Robertson to Murray, 24 October 1915, Robertson Papers I/15/4, LHCMA

108. Home, *Diary*, 13 October 1915, 90.

concerned Maxwell greatly since the BEF did not hold a continuous line and this clearly increased supply difficulties. He stated in September that, 'from an administrative point of view I sincerely hope that long before [spring] the British armies will occupy a continuous line, which will greatly facilitate our general arrangements.'[109] The difficulty Maxwell faced had been brought about by the slow resolution of the question of how to expand the BEF to take over French frontage, as discussed earlier. As a result, he had to work with crossed lines of communication as Third Army and Tenth French Army drew supplies across each other's rear areas. Given the difficulties that Maxwell faced, it is something of a surprise that the administration had functioned to the degree that it had. Despite the casualties, the increase in the BEF's size, and the combing out of officers from administrative positions, however, the line of communications remained surprisingly efficient and effective in its efforts to keep up satisfactory supply deliveries - fault for the lack of artillery shells could not be placed on the BEF.

During 1915, the BEF more than trebled in size and threw an immense problem at its administrators - how to both handle the expansion and provide for the BEF to fight at the same time. In only ten months the BEF absorbed a net 320 percent increase in ration strength, not counting the replacement of wounded troops. At the end of the year, October through December, this explosive growth ceased for a short while. Yet, the fact that the BEF had grown by over 650,000 men between January and October makes the success of the administrative services most impressive. No modern business would seriously contemplate attempting to sustain such a tremendous growth rate over such a short period of time.[110] The greatest monthly influx had been July, where an

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109. WO 107/15, Maxwell to Cowans, 12 September 1915

110. Modern business, particularly small businesses, might be able to handle such growth, but they might run into cash flow problems. Most businessmen would almost certainly prefer that such tremendous growth be sustained over a longer period of time rather than coming all at once.

additional 137,901 men added nearly 22 percent to the BEF's size. Approximately 1.05 million men, 220,000 animals, 460,000 tons of forage, 305,000 tons of food, 120,000 tons of ammunition, and hundreds of thousands of tons of other stores had been landed and moved forward from the base ports to the front.[111] That the administration accomplished this without great hardship for the soldiers and animals being moved and supplied is a credit to the men working on the lines of communication in their unglamourous but vitally important side of the war. The expansion of port facilities and the railway allowance, the institution of divisional packing, the use of increasing numbers of civilians and civilians temporarily in uniform, the strengths of flexibility in the *Field Service Regulations*, and enlightened administration meant GHQ had coped with the difficulties of the year in the face of the growing split at GHQ. General Clayton (IGC) wrote in November:

> Since I took over the L[ines] of C[ommunications] we have landed at Havre and Boulogne 920,000 men and 198,000 horses, and there has not been one single mistake made right through of sending any unit to its wrong destination.[112]

Clayton said nothing about the scale of supply deliveries. Further, he does not deny mistakes, he merely stated that no mistakes were made right through to the end of shipments or troop movements. In other words, troops arrived at the correct final destinations, and supplies got to the formations that needed them. The result was a system that was much less flexible than the one out of which it had come. It was a system which coped with the growth of 1915 and laid the groundwork for continued expansion.

The manner in which the BEF faced and overcame the administrative hurdles of 1915 illustrates a typically pragmatic and British approach to the solution of difficult problems. There was, at best, minimal input from the C-in-C because of the *Field*

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111. Unless otherwise noted, all figures have been compiled from various entries in WO 95/25, WO 95/28 and WO 95/29, *Adjutant-General's and Quartermaster-General's War Diaries*

112. WO 107/15, Clayton to Cowans, 23 November 1915

Service Regulations. The result was that the QMG, IGC, AG and their various Directors had worked out a system suited to the static warfare conditions which they faced at the time. Unfortunately, the distancing of the C-in-C, CGS and operations staff from their administrators meant the evolution of a two-tier staff system at GHQ - far from an ideal situation when planning offensives. Indeed, administrative constraints, brought about by poor production in Britain, had crippled the BEF's ability to fight and introduce innovations in 1915. Field commanders and staff officers had little scope for trying out new ideas since they lacked the materiel (both manufactured items, and, as they perceived it, quality of man-power) to do much more that sit and wait. The next year was to prove every bit as challenging, as ammunition receipts skyrocketed, the BEF nearly doubled in size again, and the transportation system was strained to the breaking point. Haig, the new Commander-in-Chief, whose appreciation for administrative matters is evident in that his first day at GHQ began with a meeting with the AG and QMG before he went around G Branch's offices,[113] undertook the BEF's first major continental campaign - the Somme - but failed to correct the split nature of GHQ's staffs.

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113. WO 256/7, *Haig, Diary*, 21 December 1915

Figure 3:1
Strength of BEF, 1915

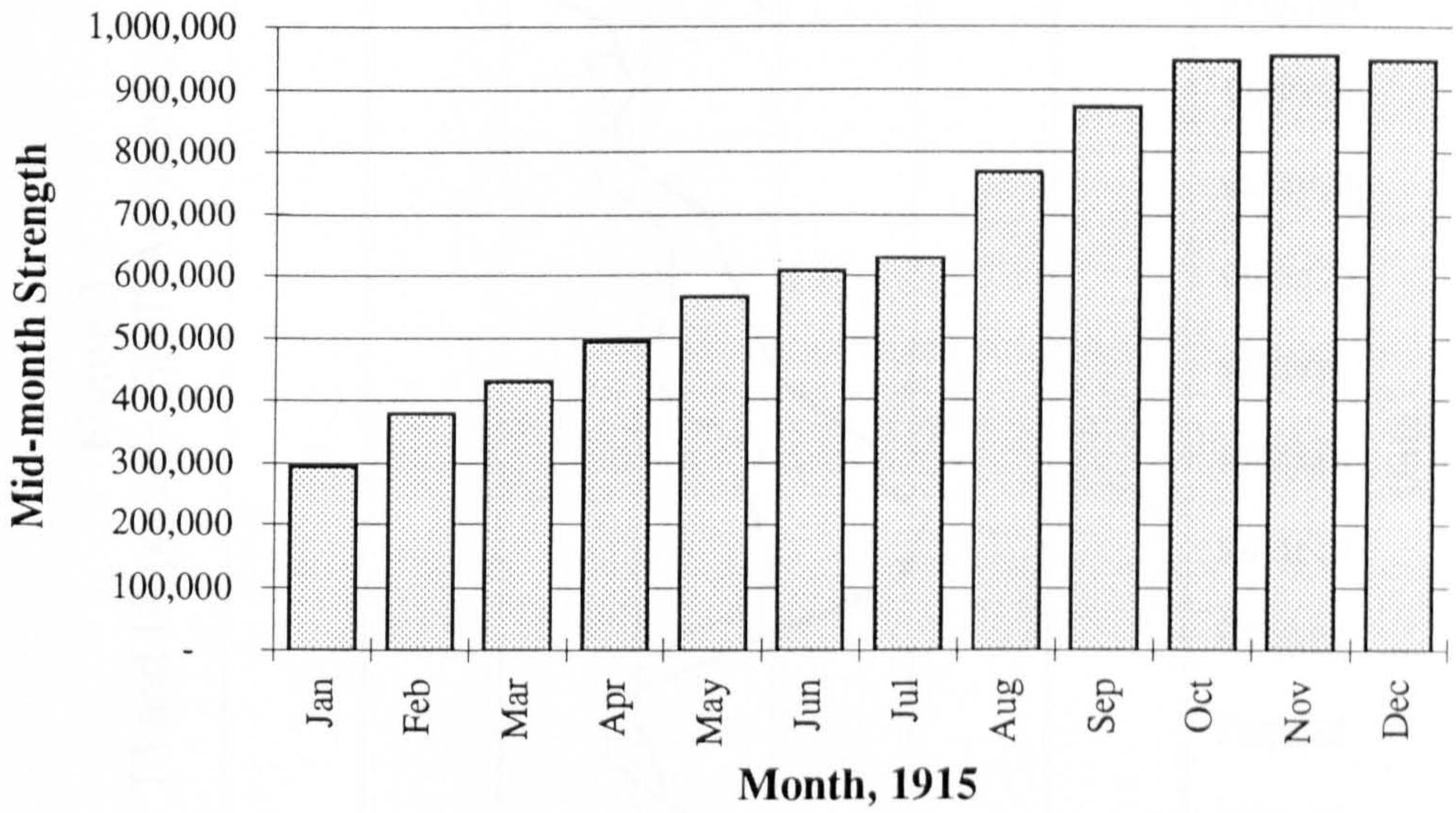


Figure 3:2
13 and 18-pounder Shell Availability, 1915

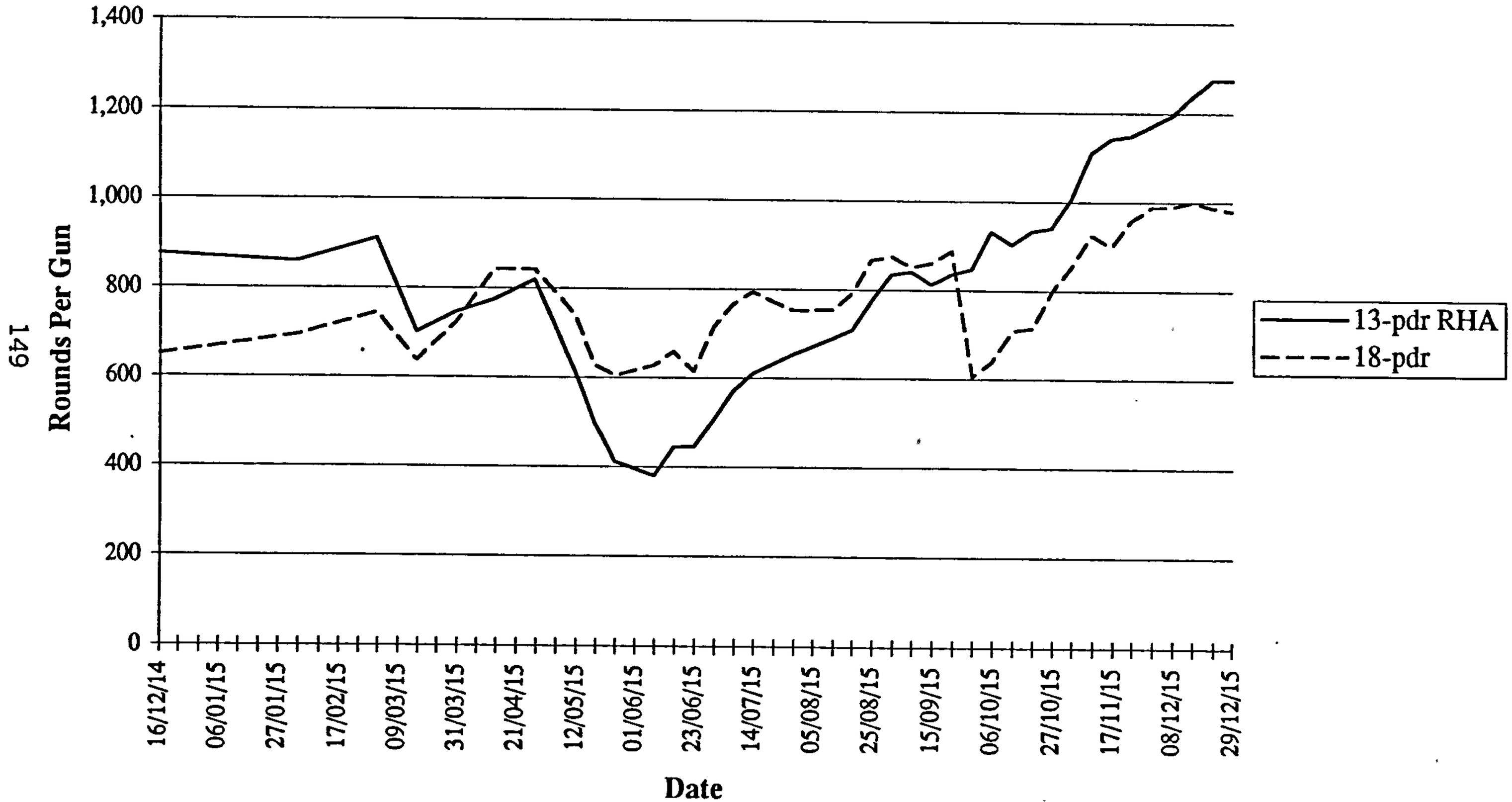


Figure 3:3
4.5" Howitzer and 60-pounder Supplies, 1915

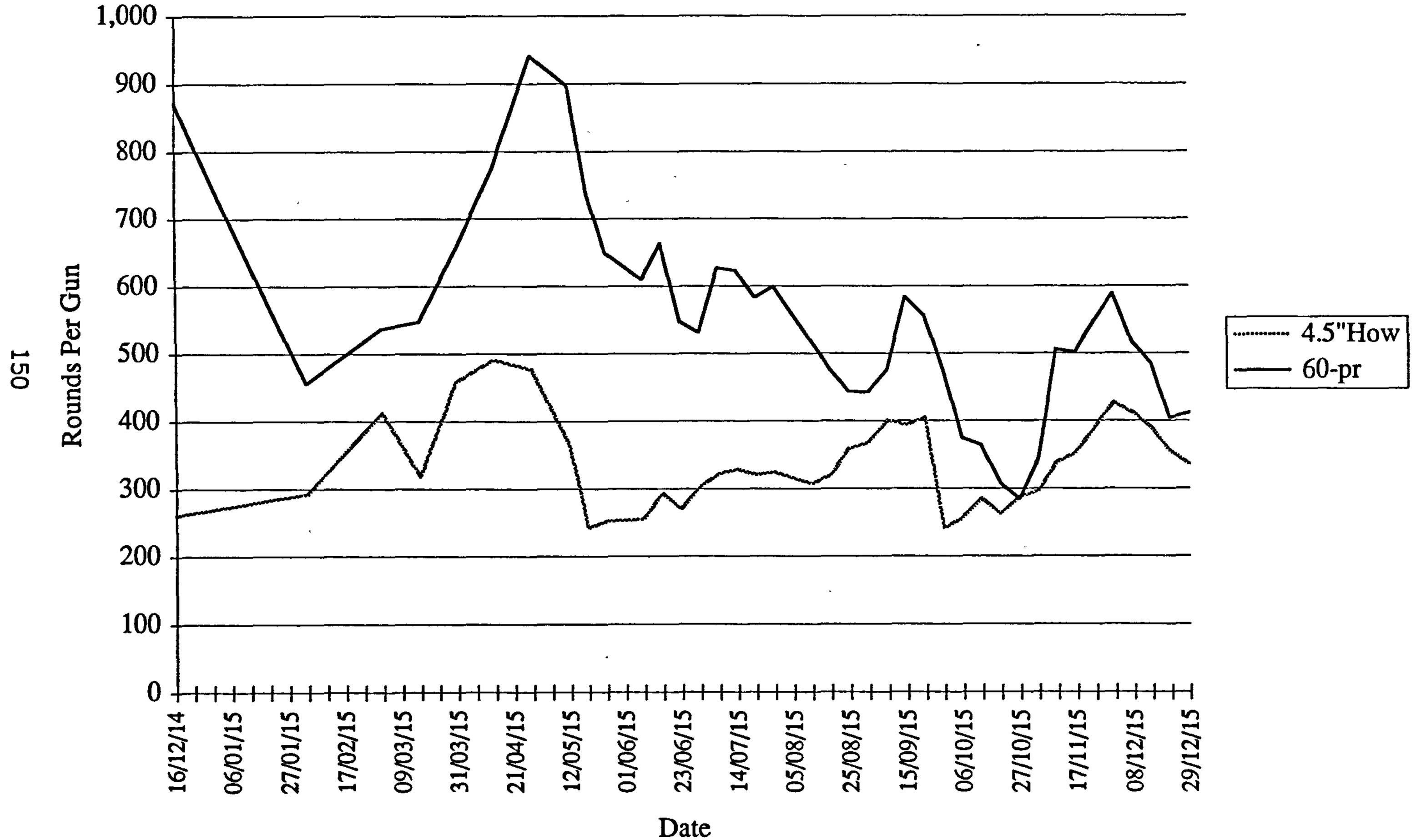
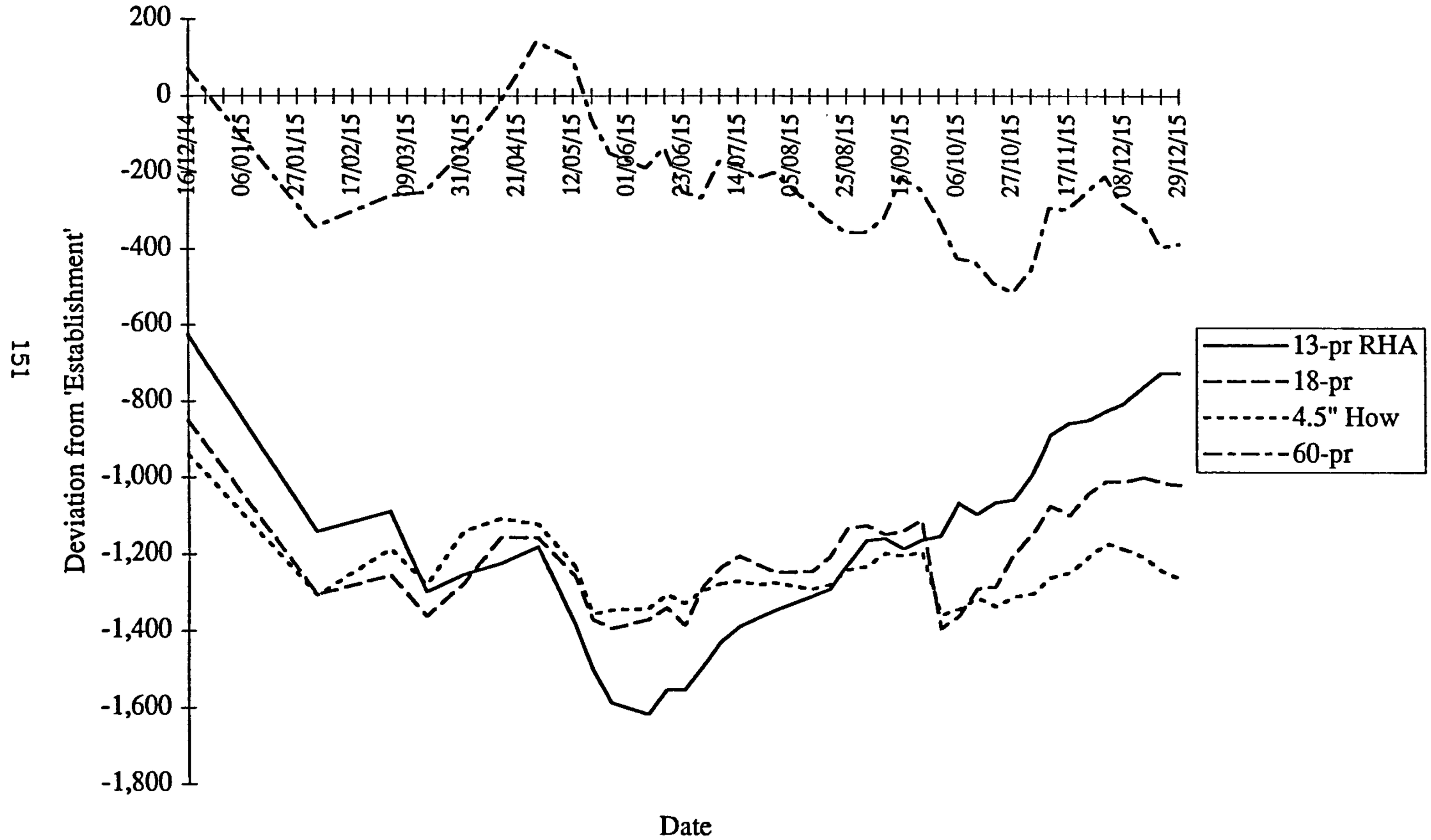
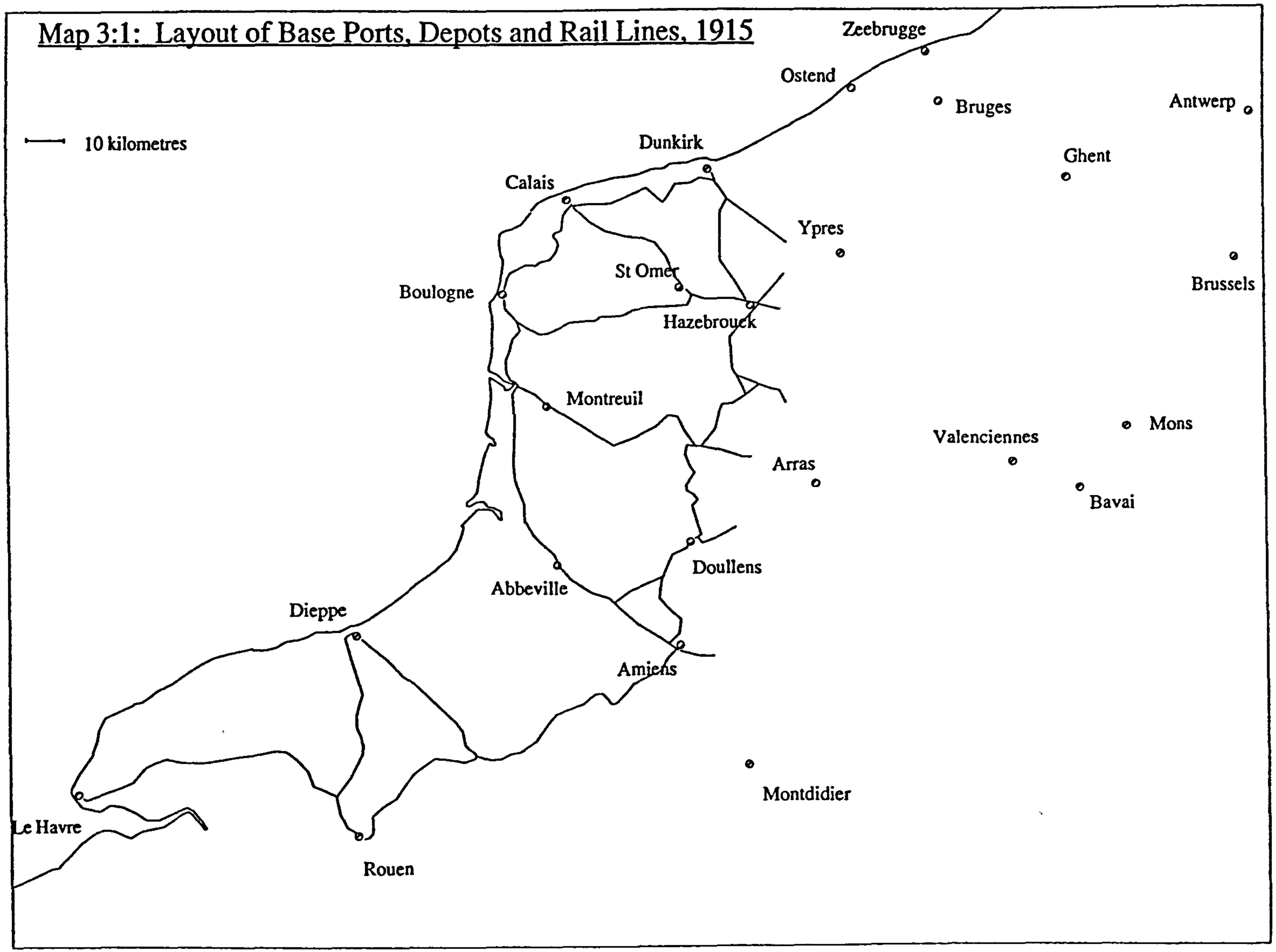


Figure 3:4
Shell Deficit, 1915



Map 3:1: Layout of Base Ports, Depots and Rail Lines, 1915



Chapter 4

Breakdown:

The Battle of the Somme and the

Near-Collapse of the Transportation System

By the end of 1915 the output of munitions factories in Britain (and the United States and Canada) began to increase dramatically. With the prospect of per diem restrictions being lifted, Haig could begin to consider offensive action with the certainty that, as long as his administration in France did not fail, his offensives would not 'cease for want of ammunition'. As a result, he could plan the Battle of the Somme for the summer with better prospects for success. However, the continued growth of the BEF and the new influx of ammunition, which began to rival forage as the primary class of supply landed in France, stressed the BEF's administration and logistic infrastructure. During the Battle of the Somme, the transportation infrastructure and system began to collapse as it had to handle unprecedented demands. While the use of expedients and ad hoc changes had succeeded in 1914 and 1915, this did not happen in 1916. The administrative demands of the Somme Offensive, particularly the vastly increased scale of artillery use and casualty evacuation, strained the transportation system to the breaking point and no amount of tinkering could help.

The shift from problems of production to those of theatre supply is best illustrated in the ammunition available for use in 1916. The near-crippling per diem restrictions on ammunition expenditure in 1915 remained problematic in early 1916. On 9 January, for example, General Clive (the liaison to GQG) noted, '...our supply of munitions does not seem very brilliant.'[1] In February, if an Army Commander wished to mount an operation which used ammunition in excess of the per diem allowance, he

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1. Cab 45/201, *Clive, Diary*, 9 January 1916

had to get permission from GHQ. This ridiculous state of affairs made officers who in any previous British war would have been Commanders-in-Chief in their own right seem almost inconsequential. The only exceptions to this came during defensive operations and minor attacks, and the ammunition shortage had badly constrained these.[2] Even the BEF's C-in-C found himself handicapped by the restrictions, since he could not simply undertake offensive operations whenever he chose - he had to set planning in motion for these far in advance of their execution.

Haig spent a considerable amount of time dealing with administrative matters - most unusual in light of the *Field Service Regulations, Part II (1912)* and their tacit approval of commanders disassociating themselves with administration. While Haig's professional attitude should have led him to pay some attention to administration, such concerns should not have taken a sizable portion of his time. Rather, Haig should have been able to focus his energy on planning the strategy for fighting the Germans in his theatre of war, while being kept informed of the state of the administration and their ability to meet his needs. Ideally, therefore, administrative matters should not have featured prominently in his routine, but administrative matters do make up a significant portion of Haig's diaries for 1916. Luckily for the BEF, Haig showed a good grasp of administration's importance and appears to have spent a great deal of time ensuring that the lines of communication kept functioning as smoothly as possible without over-stepping the bounds laid out in the *Field Service Regulations (1912)* - his concern for the troubles of his administrators never strayed to meddling. The administrative overlap, for Haig, came in many areas. Shortages of labour, insufficient railroad mileage, poor roads, inefficient docks and ammunition which all affected his ability to fight concerned him greatly - the most serious being transportation matters and ammunition insufficiency. This is particularly evident prior to and during the Somme offensive.

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2. WO 95/29, *QMG Branch, War Diary*, 14 February 1916

Lloyd George's declaration, at an ammunition conference in late January, that he foresaw no difficulty supplying demands from May onwards helped ease Haig's concerns about ammunition, and thus about the planned offensive.[3] Edmonds states in the official history, however, that, 'this foresight proved fallacious,' that a careful watch had to be kept on ammunition expenditure throughout the year, and that a significant quantity of shells, fuses, and guns proved unreliable.[4] Neither Lloyd George nor Edmonds really had it right. Haig's concern with ammunition can be easily understood when one considers that for the week ending 20 December 1915, the BEF's howitzers had been limited to 250 rounds per division. In the next week, the limit had been reduced to 200 rounds per division. Both of these figures work out to under three rounds per howitzer per day.[5] This appalling restriction did not change appreciably in the first months of the new year, so offensive action could not occur until it did.

In spite of the early difficulty ensuring its supply, the volume of ammunition-related communication between GHQ and the War Office dropped significantly in early 1916 because of increased production in Britain and, thus, larger shipments to France, as promised by Lloyd George. Rather than weekly ammunition statements, supplemented by near-weekly pleas for additional shipments as in the prior year, the IGC's War Diary for 1916 contained primarily the former, with occasional demands for specific types of ammunition which had fallen to especially low levels in the depots. For example, on 1 January, the IGC pointed out to the War Office a serious shortage in 4.7" Gun ammunition (fewer than 200 rounds per gun), and on 30 January he also brought to the War Office's attention a very serious shortage of 6" (26-hundredweight)

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3. *BOH(1916, 1)*, 25.

4. Ibid., 25.

5. Ibid., 159. The figures per gun were 2.98 rounds per day for the week ending 20 December, and 2.38 per day the next week.

Howitzer ammunition.[6] However, at the time these letters went to the War Office, the BEF had only seventy-two 4.7" Guns and just four of the 26-hundredweight howitzers in France, and the War Office received no warnings or pleas regarding any of the far more numerous types of field artillery or heavy artillery pieces.[7] Indeed, increasing shipments of ammunition to France after October 1915, reflected in the dramatic decrease in correspondence on ammunition-related topics, created new problems in France. An indication of this is that more ammunition forced the BEF to form ammunition depots at Quévilly and Audruicq in early 1916, and by the end of 1916, depots had also been created at Blargies (North), Zeneghem, Rouxmesnil, Dannes and Sagneville.[8]

The new depots demanded by increased ammunition supplies caused serious problems for the IGC and QMG because it forced them to negotiate with the French for sites for these depots. Negotiation meant delays in the short-run but better facilities and relations with the French in the long-run. Even had the war been fought on British territory, depots could not simply be created on short notice. The fact that they fought in France meant that GHQ had to work out new sites in co-operation with the French

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6. WO 95/3954, *IGC, War Diary, January 1916*, Commander-in-Chief to The Secretary of State for War, 1 January 1916 and 30 January 1916; copies forwarded to IGC in QMG to IGC, 1 January 1916 and 30 January 1916

7. At this time, the 4.7" Guns were in the process of being replaced by 60-pounders and the newer Mark VI version of the 4.7" Gun, while the 26-hundredweight howitzers had only just begun to replace the older 30-hundredweight version of the 6" Howitzer. In total, the BEF had 80x4.7" Guns (8 of the newer Mark VI type for which there was a better supply of ammunition), 72x60-pounders and 74x6" Howitzers (4 of these were 26-hundredweight) at the beginning of the month. By the end of the month, the number of older 4.7" Guns had dropped to 68, while there had been no increase in the numbers of the newer 6" Howitzers. See WO 95/3964, *IGC, War Diary, January 1916*, 5 January 1916; 12 January 1916; 19 January 1916; 26 January 1916 and 2 February 1916.

8. *BOH (1916, 1)*, 96.

Directeur de l'Arriere.[9] The decision, for example, to open new depots at St Pierre Brouck and Rouxmesnil took nearly two months from start to finish. In early June, when the QMG and IGC had begun to consider new sites for depots, Colonel Ragenau, of the Direction de l'Arriere, wrote to suggest that more co-operation between the French and British should be used in the selection of such depots.[10] This led directly to a conference at GQG on this matter and to the selection of a site suitable for forage and ammunition south of St Pierre Brouck. This decision led to the suggestion on 18 June from the IGC that Dieppe, close to the site, could be used for landing ammunition if the French allocated berths at Fécamp to supplement those at Dieppe that would be lost to other classes of supply. To this the French agreed on 2 July, having been informed of the need by the QMG on 30 June, and permitted the BEF two berths there. On 4 July, the IGC asked for a site at Rouxmesnil, after it had been examined by a committee. The French agreed to this too. Ultimately, the QMG and Directeur de l'Arriere agreed that Blargies Nord and Audruicq should be fully used without renovations, while Rouxmesnil and St Pierre Brouck be constructed as soon as possible. Further, new sites were to be scouted and considered, and the IGC received permission to use Auxi-le Chateau whenever he considered it necessary - at the time he needed it while Audruicq underwent repair after a catastrophic fire and series of explosions.[11] Nearly two months of discussions and committees had resulted in the

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9. It is difficult to provide a precise equivalent for this position in the British Army because the French and British used substantially different staff systems. The Directeur de l'Arriere roughly approximates to a combination of the QMG and IGC.

10. WO 95/30, *Summary of Requirements for Ammunition Storage Facilities, Appendix A.I, QMG Branch, War Diary, July 1916*: unless otherwise noted, all citations referring to depot selection and development are from this source.

11. WO 95/30, *QMG Branch, War Diary*, 22 july 1916: the fire resulted from a German air raid.

decision to open new ammunition depots, not the depots themselves - construction still lay in the future. In the meantime, the BEF's artillery assets continued to grow.

The new depots helped increase supplies in France and supported a dramatic growth in the numbers of guns in France, over and above that anticipated by the expansion of the BEF. The growth in numbers of heavy guns in France during 1916 is particularly dramatic and reflects a greatly increased burden on the lines of communication, particularly transportation. Figures 4:1 and 4:2 show this considerable augmentation of the BEF's heavy artillery establishment. The number of heavy artillery tubes grew at a faster rate than the BEF's expansion would have warranted because the BEF realised its importance and had to make up for the lack of heavy artillery in establishments prior to the war. In comparison, as Figures 4:3 and 4:4 illustrate, the numbers of field artillery pieces grew in direct proportion to the expansion of the BEF.[12] This should come as no great surprise because field artillery was the tool of divisions, while heavy artillery was generally a corps or army asset. Additionally, the BEF understood that its establishment of heavy artillery had been far too low, so this reflects an effort to redress that problem. Edmonds, too, noted the increase in the BEF's size during 1916. He stated that between 1 January and 3 July, seventeen divisions reinforced the BEF. Further he explained that the number of heavy guns in France increased from 324 in January to 714 on 1 July and 1127 at the close of the Somme Offensive.[13] What he failed to note is the increased administrative burden brought about by this growth. From a supplies' perspective alone, the new divisions required fifty-nine and one-half divisionally packed supply trains per week along the whole front, for nothing more than daily requirements. Further, the heavy artillery growth figures above conceal the correspondingly heavier demands on the lines of

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12. Figures 4:1 through 4:4 have been compiled from WO 95/3962 through 3971, *IGC, War Diary, December 1915 to November 1916*

13. *BOH (1916, 2)*, 565.

communication required to supply these guns in action - heavy artillery, by design, using shells that are far heavier and bulkier than field artillery shells.[14] This growth led to a significant increase in the administrative burden because more units required supply, and their demands increased continually, particularly for ammunition.

The increase in numbers of heavy guns really illustrates the growing commitment to artillery as the main operational tool by which the war might be won. The General Staff understood, by 1916, that artillery was a key to success on the Western Front. They observed in early 1916 that:

> The lesson of the war up to date is that a carefully prepared attack, if supported by an unlimited expenditure of munitions, causes more loss to the defence than to the attack in the first stages of the operation.[15]

Prior and Wilson, in *Command on the Western Front*, also argue that one vital key to an assault's success was the weight of shell, particularly heavy shell, which could be delivered per yard of defensive trench. Yet, curiously, their study also demonstrates that commanders planning operations did not always specifically determine the amount of heavy shell needed. Rather, they tended to use intuitive formulae at this stage of the war which worked sometimes, but failed when facing the formidable defense the Germans occupied in the Somme area.[16]

Part of the convincing argument laid out in *Command on the Western Front* for the failures on the Somme, particularly late in the campaign, is that a lack of ammunition exacerbated Rawlinson's difficulties in October and November.[17] An

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14. Ian V Hogg and L F Thurston, *British Artillery Weapons and Ammunition, 1914-1918* (London: Ian Allan Limited, 1972), passim, offers the following figures for the common type of gun at the time:

18-pounder - 18.5 pound shell	6" Howitzer - 100 pound shell
4.5" Howitzer - 35 pound shell	9.2" Howitzer - 290 pound shell

15. WO 158/19, General Staff Notes, January to December 1916, *General Staff Note, 16 January 1916*, point 4

16. Prior and Wilson, *Command on the Western Front*, 164-170, passim.

17. Ibid., 254.

analysis of the amounts of ammunition in France and the weekly usage rates does not, however, entirely bear out the authors' speculation that there was ammunition in the depots that could not be taken to the guns, due to conditions in the battle area. While the conditions in that area could hardly have been described as anything but awful, Figure 4:5 illustrates that the field artillery's supplies were, indeed, far better than in 1915, and, while there is a marked drop in the number of rounds available after July, there is also evidence that the quantity in France remained stable from August through November. Furthermore, Figure 4:6 demonstrates that expenditure of ammunition was dramatically and consistently higher during the Somme Offensive than in 1915. In fact, so long as the expenditure of 18-pounder ammunition did not greatly exceed one million rounds in a week, the stocks of that shell in France increased.[18] In spite of the fact that the number of rounds per gun never reached the establishment warranted, the War Office did not receive complaints from France - clearly the IGC and Director of Ordnance Services had become satisfied that the ammunition reserves did not show any danger of depletion. Indeed, the administrative infrastructure put in place in 1915 that the IGC and Director of Ordnance Services had to use was barely capable of handling the Somme's demands. Given that ammunition expenditure remained consistently high during the Somme Offensive, it must be concluded that in the rear areas of the BEF, the administration was succeeding in its goals and getting the supplies to the railheads at the very least, and that if Rawlinson's artillery experienced shortages, these must have occurred due to problems in front of the railheads.

Until the Somme offensive developed past its opening stages, the administration proved reasonably effective at dealing with the increased demand for ammunition, and the administrative services and factories in Britain exhibited a better ability to supply the artillery's needs as 1916 progressed. Unfortunately, their colleagues on the other side of GHQ did not fully appreciate their difficulties. For example, from an administrative

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18. Figure 4:5 and Figure 4:6 have been compiled from WO 95/3962 through 3971, *IGC, War Diary, December 1915 to November 1916*

perspective, the General Staff, having made the above observation on artillery, made no effort to ascertain how to deliver an effectively unlimited supply of munitions to the guns. Rather, they focused on tactics and operations, perhaps simply assuming that their administrative colleagues would solve the problem for them. In fact, in all of the General Staff Notes written in 1916, analysis of administrative matters is limited to three items - the above note, a brief one on the availability of ammunition the next month, and an analysis which determined that it was more economical to keep cavalry in France than move them to England for three months.[19] Although administration did not fall under G Branch's mandate, they really should have been better informed as to administrative matters.

The operations staffs in France, and senior officers in Britain who focused on the operational side of things, did not appreciate the difficulty that their proposals would pose for administrative staffs in France - firing far more ammunition from a greatly increased number of guns meant that the ammunition had to be moved forward over a system unprepared for it. The ad hoc system that had evolved in 1914 and 1915 had never been required to move the same gross or proportional tonnage as GHQ now demanded. Even as perceptive an officer as Robertson, who should have known the difficulties, tended to forget administration once he moved out of the QMG's office. This shows clearly in a letter he wrote to Major-General Sir Launcelot Kiggell (Haig's CGS) during the summer. Here, Robertson, the new CIGS (Chief of the Imperial General Staff), passed on some tactical observations, arguing for more artillery use and more limited objectives in assaults than had been the norm.[20] Such operationally sound ideas illustrate the core of the highly effective operational system that ultimately evolved in the BEF, but Robertson shows a surprising lack of appreciation of the difficulties

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19. This conclusion is drawn from an analysis of WO 158/19, *G.S. Notes, January to December 1916*: the notes of 16 January, 21 February and Note 106 (no date) are the few that have any appreciation of administrative demands

20. Robertson to Kiggell, 5 July 1916, Kiggell Papers 4/3, LHCMA

this would pose to Maxwell, his successor as QMG who had to arrange for the supply of more ammunition for the more frequent limited objective offensives. It can only be assumed, then, that the General Staff had become satisfied that ammunition shipments would be handled efficiently by the BEF's maintenance services, and gave it no further attention, as it was out of the scope of what they normally dealt with. As a result, they had no concept of the demands their administrative colleagues would have to face, and little fear that the transportation system might not be able to cope. This is a clear illustration of the two-tier staff system that had evolved from the pre-war *Field Service Regulations* in action.

The demands of the Somme Offensive on the rail network, from an artillery perspective alone, were significant since they represent a dramatic jump in demand on a system that had not been fully prepared for it. Until mid-June, some five to twelve ammunition trains per week sufficed for the BEF's needs. After that date, the number leaped up to between forty-five and ninety per week.[21] Figure 4:7 shows the estimated number of ammunition trains run to railheads during 1916 solely to replace expended ammunition. The tremendous effort that went into preparing Fourth Army for the Somme accounts for a negligible proportion of this traffic, though the fighting of the battle accounts for a significant proportion of the traffic once it had got under way. Ammunition trains began to run to Fourth Army on 5 June at a rate of seven per day which represents an additional forty-nine ammunition trains per week over and above those on Figure 4:7. All of this then had to be moved from railheads to the guns. After eighteen days of this, Haig wrote, 'Each *division* [would] have on the ground the equivalent of the loads of 36 miles of motor lorries,' he also expressed some satisfaction at the rate at which water arrangements (piping and water lorry conversion)

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21. All figures given for numbers of trains have been calculated based on estimates that a typical ammunition train carried roughly 370 to 400 tons. Cf WO 95/59, *Director of Ordnance Services, War Diary*, 20 April 1917.

had been going.[22] The troops at the front did not miss this increase in deliveries.

Captain C C May wrote a week before the opening of the battle:

> Everything is speeding up no end. Ammunition by the hundred wagon-load [is] pouring up. The village is alive with transport and artillery and the Bray-Corbie road is one incessant stream of heavy-laden motor-lorries. It should certainly not be for lack of ammunition if this time we do not make a huge success of the venture.[23]

Unfortunately, as Prior and Wilson have shown, the proper amount of ammunition had been provided for Rawlinson's initial plan which called for a limited operation, but there was simply not enough for the revised plan which called for a deep attack.[24] The lack of success at the Somme, therefore, cannot be blamed on inadequate support from the rear areas. Rather it is, as has been indicated in numerous studies, a failure in operational planning brought about by a desire for more than could be attained.

Once the battle began, Fourth Army used ammunition at a tremendous rate. In spite of the increased production, the legacy of the prior year left the QMG anxious about the ammunition question by 12 July since, 'at our present rate of expenditure we will soon have exhausted our reserves, and be dependent on daily income for all except 18-p[oun]d[e]r.'[25] However, the fact remains that, in spite of this concern, the BEF managed to keep on with a very high expenditure because daily income was substantial. Even so, they did take some care in managing their ammunition expenditure. In September, for example, Haig noted:

> Ammunition is coming in well, except 18-p[oun]d[e]r of which there is a large daily expenditure. On the 15th September 333,768 rounds were expended, 16th September 198,000 rounds and 17th Sept[ember] 162,000. We still have over a million rounds of 18-p[oun]d[e]r in

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22. WO 256/10, *Haig, Diary*, 5 June 1916: no emphasis in original
23. *C C May Diary*, 23 June 1916, Captain C C May Papers 91/23/1, IWM
24. Prior and Wilson, *Command on the Western Front*, 141-6.
25. WO 256/11, *Haig, Diary*, 12 July 1916

> reserve, but in view of the expenditure exceeding receipts in this kind of shell, care has been ordered in its use.[26]

Throughout the battle, even with some care in the use of field artillery, expenditure remained high, and large numbers of trains kept running. The tremendous increase in field artillery usage accounts for part of the increase in numbers of trains illustrated in Figure 4:5, but it is the dramatic increase in numbers of heavy guns which caused the greatest changes. One million 18-pounder shells, for example, could be shipped in twenty-five trains; while one-tenth as many 60-pounder shells (heavy shells, but not in the same class as 8" Howitzer shells) required just under one-third the number of trains. In spite of this increase, the demands from the front must have been largely met, for the usage from late June to late November remained consistently over one million shells per week (roughly fifty-five trains) - far in excess of the expenditure of prior years.

The sustained expenditure caused by the Somme helped to over-strain a system which, while it could cope with low per diem requirements, could not maintain such high demand. If problems occurred, they would likely have begun with the heavy artillery due to the difficulty of tactical supply of that type of shell (moving large, bulky shells by pack train over ground which had been churned to a lesser or greater degree by the artillery of both sides). This would have caused back-logs of deliveries at the refilling points, then railheads, and so-on back down the line. Indeed, this appears to have been the case,[27] but the real trouble had become the weather rather than expenditure. Heavy rains had begun to affect the relatively small number of roads in the area, while traffic remained very heavy - over 550 lorries in use per day on a quiet day.[28] As a result, the efficiency of tactical resupply declined.

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26. Ibid., 18 September 1916

27. WO 256/14, *Haig, Diary*, 7 November 1916: Haig wrote that the road deterioration had made it impossible to maintain supply for the 15" Howitzers.

28. Ibid., 19 and 21 September 1916

General Clive noticed an apparent lack of ammunition, particularly for the heavy guns, early in the Somme Offensive, but this was caused by tactical resupply failings, not a lack of ammunition in France. On the fourth of July, Clive first commented on the lack of heavy gun ammunition, and followed this up the next day, after lunching with Lieutenant-General Sir Aylmer Hunter-Weston (GOC, VIII Corps), with the same observation.[29] In investigating Hunter-Weston's complaint about a shortage of heavy gun ammunition, Clive tried to determine the reason for its shortage. He concluded that Ordnance Services had worked to figures calculated in February and had apparently not been informed of a later expansion of the frontage of the Somme attack - a clear breakdown of communication between GHQ's various parts. Combined with an additional two days' preliminary bombardment, this neglect on the part of G Branch had resulted in a shortage.[30] This sensible reason contrasts with Edmonds's earlier claims that the entire artillery problem resulted from Lloyd George's inability to provide GHQ with accurate forecasts of availability of ammunition and, thus, that the whole of the blame could be laid at Lloyd George's door.

In fact, the shortage was not as serious as it might have been and both Edmonds and Clive missed the crux of the problem - that production had ceased to be a hurdle, and transportation in France had begun to slow deliveries as demand increased. The 8" and 9.2" Howitzers did suffer a serious drop in stocks in early July (to as low as 255 rounds per gun for the 9.2" shells), but rapidly recovered to a level which allowed for heavy expenditure. The only other dip in the stocks of these calibers occurred in October and was, again, very short lived. The 12" and 15" Howitzers saw their stocks slip more dramatically - to under 100 rounds per gun in France. The 12" shells had recovered strongly by the end of August, but the 15" shells never did. This was not very serious, however, because the 15" Howitzer had proven to be a rather

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29. Cab 45/201, *Clive, Diary*, 4 and 5 July 1916

30. Ibid., 5 July 1916

unsatisfactory weapon due to its very short range. August appears to have been the watershed in ammunition supply, since after that month, supply from Britain could be assured - though, admittedly, as Edmonds and many others have noted, the quality could not.[31] Indeed, the difficulty of the supply during July can be more appropriately found in the problems of tactical supply rather than production. The BEF had resisted improvements in areas such as light railways which would have facilitated the movement of heavy shells to the guns far more expeditiously than pack trains and wagons. The problems boiled down to a transportation system which had evolved during the much lower demand period of 1914-15 trying to cope with the removal of per diem restrictions. The increase in the production of ammunition had opened up the possibility for increased expenditure, and field commanders quickly seized on this change of circumstances. On 2 August, for the first time, the IGC made an unprecedented complaint to the War Office about ammunition arriving at Boulogne too quickly to handle, a dramatic change from prior months. The IGC wrote the Secretary of State for War that Boulogne could only handle 2,000 tons per day, and that sending 5,000 per day merely left ships waiting for berths and promoted inefficiency.[32] This had to be re-emphasised by the C-in-C later in the month.[33] Clearly, the War Office sought to rectify earlier shortages and supply the needs of the Somme, but a balance had to be found. In September, the War Office advised the IGC to be prepared to receive 7,000 tons of ammunition per day by March 1917. As a result, allowing for

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31. See *BOH(1916, 1)*, 25, for example, on dud shells and the poor quality of fuses.

32. WO 95/3970, *IGC, War Diary, August 1916*, IGC to The Secretary of State for War, 2 August 1916

33. Ibid., Diary, 27 August 1916, note that C-in-C had written War Office about over-shipment of ammunition to Boulogne and Rouen

temporary port closures, an allowance of some 9,300 tons per day had to be made.[34] The IGC's response was not encouraging. He stated that unless more berths became available - he specified Dunkirk - the ammunition imports could not be processed.[35] Ultimately, the French approved of landing, but not storing, ammunition at Dunkirk - berths had to be arranged with the French government, they could not simply be appropriated.[36] Because British production had been dramatically increased, the BEF's ammunition problems from this point onwards became controlled by German efforts to interdict ammunition movement on the lines of communication up to the railheads, by interdiction of tactical resupply in the battle area, and by a simple shortage of the means of transportation available in France.

The break-down must have come, as would be expected and as Prior and Wilson indicate, in the front areas where the Germans could interdict operational and tactical supply routes and local dumps. The difficulties on the Somme can be encapsulated by the following passage from Lieutenant-Colonel E H E Collen (12 Division) who wrote:

> The main difficulty in the A and Q work lay in the congested state of the roads, not by any means due to lack of APM control but to the fact that the good roads for lorry work were few and far between. As the early advance had taken the troops into formerly German occupied country, improvisation was at first only possible, until railways could be built. ... The ammunition supply was one of considerable difficulty, and the Gunners were obliged to rely on convoys of pack horses. ... the mud and the shelling gave much trouble in getting up to the front supplies of food and s[mall] a[rms] a[mmunition], water etc.[37]

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34. WO 95/3976A, *War Diary of Q Branch, Headquarters, IGC, September to December 1916*, 19 September 1916

35. Ibid., 28 September 1916

36. Ibid., 1 November 1916

37. E H E Collen ts., 13, Lieutenant-Colonel E H E Collen Papers, Volume III, IWM

In spite of such trouble, the supplies did keep flowing, and the guns kept firing enormous quantities of ammunition, as Figure 4:6 illustrated. A crisis state had been reached, however, as the resupply that occurred was accomplished only with the utmost difficulty and exertion on the part of all members of the administrative services - far from an ideal situation.

It is not clear that any form of administrative quality could have made up for a flawed plan of campaign, one which could not have been supported. Tim Travers argues in *The Killing Ground* that, in essence, the BEF failed on the Somme before the first assault. He demonstrates that GHQ experienced a form of mental paralysis brought on, in large measure, by Haig's personality - subordinates would not contradict their C-in-C. As a result, the Somme's planning became an operational mish-mash where GHQ expected a breakthrough and Rawlinson at Fourth Army hoped to pull off more limited successes.[38] Administrative records corroborate the desire for a breakthrough at GHQ. Haig clearly intended a significant advance in his Somme Offensive as he had the administration devote a significant amount of planning to an important non-military problem - the care and feeding of the liberated population in areas likely to be denuded of food by the retiring Germans.[39] An Anglo-Franco-Belgian committee formed in May to study this problem feared that:

> if the Armies were not to be hampered during the advance, it was most important that every preparation should be made, and a scheme drawn up beforehand which should, as far as possible, be complete in every detail.[40]

As a result, the QMG issued an instruction in late June explaining to Armies, Corps and Divisions how to accomplish this task, and asking that they reserve as much transport

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38. Travers, *The Killing Ground*, 127-51, passim.

39. WO 95/30, *QMG Branch, War Diary, Appendices, May 1916*, Q/4072/A, Meeting of Committee on Feeding of Liberated Populations, 11 May 1916: the committee considered how to feed civilians in a belt up to sixty miles deep.

40. Ibid.

as possible for the carriage of civilian food.[41] Of course, the limited advance that resulted on the Somme meant that the BEF never had to implement this plan. The plan's existence, however, does demonstrated that GHQ did not have a limited advance as their primary goal. It also demonstrates that GHQ could come up with far-reaching administrative plans for successful offensives. Had a significant advance occurred without any such plan to feed liberated civilians, the chaos can only be imagined. In fact, the BEF's administration was lucky that Haig's desire did not materialise, as they could not have supported it.

The Somme Offensive placed a greater demand onto the administrative services than they could ultimately manage. Any single problem might have been handled in the ad hoc fashion of the previous years, but the cumulative problems of meeting very much increased demands, when railways and roads needed extensive repairs, and the men and materiel for the repairs were not available made the situation intolerable.[42] Even the increased artillery accounts for only one of the major types of train movements during this time. In addition, the BEF required trains for daily supplies such as food and forage, as well as trains for casualty evacuation for which the Somme represented a substantial rise, engineering stores, roadstone, timber and numerous railway moves in the rear areas. For example, while the gross weight of food and forage being moved was, for the first time, less than the ammunition, its bulkiness meant a large number of trains - a ton of hay takes up a far greater volume than does a ton of ammunition.[43]

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41. WO 95/30, *QMG Branch, War Diary Appendices, June 1916*, QMG to Armies, cc to Corps and Divisions, 24 June 1916

42. W. G. Lindsell, 'Administrative Lessons of the Great War,' *JRUSI*, Volume LXVI (484), February to November 1926, 714.

43. *BOH(Transportation)*, Wagon Estimates, between pages 186 and 187 gives the following figures:

Ammunition, Oats -	10 tons per wagon
Hay -	4.5 tons per wagon
Bran -	4 tons per wagon
General (food, etc) -	6 tons per wagon

The daily needs of a single division filled one-half of a train,[44] so, to feed a fifty division BEF, twenty-five trains per day were required - and this with the simplified divisional packing system in place. In addition, the railways had to handle ammunition, ordnance stores, engineering stores and casualty evacuation. By early 1916, the lines of communication also handled 100,000 tons of RE Stores per month.[45] These were not generally included in the divisional packs, and account for a significant volume of traffic - some 30 to 50 trains per month; more if the Inland Water Transport had been less utilised. Additionally, there were 'rocade,' or cross-railhead, trains - some fifteen to twenty per day.[46] Taken together, such demands could be handled in static warfare; with ammunition requirements restricted by per diem limits the railways had a greater ability to move other stores. With the ammunition restrictions lifted, the launching of the offensive over-taxed the railways. What the Somme Offensive did was to force that little bit extra out of a transportation system which could not deliver it.

The additional ammunition required by the Somme demonstrates why it marked a crisis point - the massive amount of supply that had to be funnelled into a small portion of the BEF's front could not easily be maintained. In early July eighteen divisions operated on the Somme battlefields and they necessitated an enormous effort to keep supplied. They required 63 divisionally packed supply trains per week. Further, if we assume that roughly fifty percent of the artillery expended in the week ending 12 July was fired on the Somme, then 23 ammunition trains were required that week. Allowing for seventy-five percent of the 1.12 million rounds expended that

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44. E P Anderson, 'The Railway Organization of an Army in War,' *JRUSI*, Volume LXVII (487), February to November 1927, 502. See also *BOH(Transportation)*, 103-4.

45. Colonel C L Spencer, *Some Private Recollections of a Base Wallah, 1914-1919*, 67, Stuart Papers 7, LHCMA

46. *BOH(Transportation)*, 105.

week being used in the Somme area, 35 trains would have been required. It seems unlikely that the augmented artillery assets of Fourth Army assisted by Third Army could have accounted for more than this. In addition, casualties had to be removed from the battlefield at a rate that the BEF had not previously experienced - some thirty-three ambulance trains per day had to be allocated to this. All of this new traffic load had to be moved to and from an area where the rail facilities were far from ideal.[47] Fourth Army alone required seventy trains per day (nearly five hundred per week) to be moved over inadequate tracks.[48] Along the whole of the BEF's frontage, the addition of the 47 trains required to move the BEF's artillery ammunition (far more than previously) and up to 240 Fourth Army ambulance trains per week to some 225 divisionally packed trains, roughly 100 rocade trains, and thirty to forty RE Stores trains began to excessively strain the transport system. Finally, everything reaching the railheads had to be forwarded to the troops. For this, Fourth Army had just under 4,700 lorries to assist in moving the 1,934 tons of supplies needed per mile of front per day to the troops over roads which became increasingly damaged by that traffic, the effects of weather and the reduction in repair material brought about by the demands on the railways.[49] With the demand remaining high, the system must break down because maintenance had declined to the point that the system had already begun to slow down.[50]

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47. Ibid., 120.

48. Ibid., 120-122.

49. Ibid., 157.

50. WO 95/32, *QMG Branch, War Diary, October 1916*, CGS to Armies, 11 October 1916: warns that more precautions must be taken by Army Commanders to see that their roads are maintained and that excessive traffic is not run over such roads when repairs are necessary. Cf also Cab 45/201, *Clive, Diary*, 19 November 1916: Clive feared that the distribution of winter gear to the troops would be slowed because the number of troops in the Somme area meant that 'the railways are overstrained;' and E H E Collen ts., 13, IWM, where he suggests that the main problem for divisions was the poor state of the roads.

The problems faced by this increase might be met in a number of ways, many of which were tried in 1916 in an effort to mitigate the crisis. One way to help solve the transportation problems was to make better use of canals. In April, GHQ (probably Haig on the advice of the QMG) had decided to ask the Secretary of State for War to arrange for an expansion of the BEF's Inland Water Transport capability.[51] It is worth noting that before the War, the waterways in Belgium carried fifty percent of the country's commerce, so they were clearly a well developed network of great potential which the BEF was attempting to tap.[52] While this expansion was, to a degree, based on an assumption that the BEF would advance during the year, it was also designed to reduce the strain on the road and railway networks. GHQ wanted to double the moving capacity on canals in the British areas. In fact, the Inland Water Transport utilisation did increase during 1916. Having been initiated in September 1915, by May 1916 the IWT had moved over 400,000 deadweight tons of materiel and evacuated over 16,000 sick and wounded.[53] By the end of 1916, IWT moved its millionth ton, and was moving some 100,000 tons per month on 564 vessels of all types, mostly barges.[54] This represents a significant reduction on the demands placed on the railways - perhaps as many as 250 trains per month; or the entire RE Stores' monthly requirements. Such diversification of the Transport System, however, required skilled men to run it - often

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51. WO 95/29, *QMG Branch, War Diary, April 1916*, Maxwell (for C-in-C) to The Secretary of State for War, 13 April 1916; Cf WO 95/27, *QMG Branch, War Diary*, 15 December 1914 for first mention of the potential of IWT; WO 95/28, *QMG Branch, War Diary*, 6 March 1915 for first establishments for IWT.

52. WO 95/56, *Director of Inland Water Transport, War Diary, September 1916 to March 1917*, (DIWT) Memo No.1, Inland Water Transport, 19 September 1915

53. Ibid., (DIWT) Memo No.2, Inland Water Transport, 5 May 1916

54. Ibid., (DIWT) Memo No.4, Inland Water Transport, 29 April 1917, and Memo No.3, December 1916

men of military age, and the BEF's administrators had, even before the offensive began, begun to lose those men as they had in previous years.

Just at the time when the lines of communication were gearing themselves up to meet the needs of the coming offensive, General Clayton was, 'asked by Mr Long's Committee to enquire into the possibility of transferring men from the Railway Transport Sections for more active duties in the field.'[55] This request could not have been more ill-timed. Further, given the relatively small numbers of men involved, and their specialised skills, the request, yet again, does not appear to have considered the importance of the lines of communication for the BEF's success. Clayton, as has been shown in the previous chapter, fully understood the need for skilled men on the lines of communication. He obviously asked the QMG for information to enable him to resist the request of the committee. The QMG's response to Clayton indicated that he, too, understood how important the men were. He wrote:

> In the 10 Railway Transport Sections at present sanctioned, there are 975 men in this country ... to replace [647 clerks and checkers], even if it were possible to do so, would involve entire dislocation of the maintenance services of the Armies, which, at a critical time like the present, cannot be considered. In my opinion they are indispensible [sic].[56]

This response is an encouraging sign of the value placed on skilled men on the lines of communication being allowed to do in wartime, the jobs they held in peacetime. However, it would have been far more encouraging had this kind of concern been exhibited by G Branch - there is no evidence of this. The IGC was not entirely unwilling to replace fit men on the lines of communication with older and unfit men. However, he stressed that any change must be gradual.[57] This would allow minimal dislocation to the system; a system, it should be noted, that made far more valuable use

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55. WO 107/15, Cowans to Maxwell, 31 May 1916

56. Ibid., Maxwell to Cowans, 2 June 1916

57. WO 95/3968, *IGC, War Diary, May 1916*, 4 May 1916

of experienced railwaymen than that which would be made had they been put into the front lines as able-bodied infantrymen.

The use of skilled men for their specific skills and experience at moving supplies within the BEF had actually become another way to solve the problems created by increased demands. The War Office even realised the value of such an approach, creating a Non-Combatant Labour Corps in March, and by late April, had reached the point of sending companies of that formation overseas. Haig proved anxious to get a number of these companies to France to help ease his problems. He told the War Office that the 'demand for labour on the Lines of Communication is becoming more and more acute' and that he needed his Works Directorate expanded immediately.[58] Not only would more labour help ease the line of communication problem, but by allowing more timber and road-stone to be felled or quarried in France it would release some of the forty ships carrying those items to France to move other cargoes. Additionally, it would release labour lent to the Director of Works by Army Commanders for work elsewhere. In particular, Haig wrote that if the War Office could supply the Director of Works' demands for 16,050 men, this would release two RE labour battalions, 16 ASC labour sections, and 40 regulars of the 58th Brigade for use on roads in Army areas. It would also allow GHQ to cease using 600 Belgian labourers who cost a great deal of money. Of the 16,050 men required, the Director of Works wanted 10,000 for felling timber in France. A measure of the total amount of labour required by the BEF at roughly this time can be had from Table 4:1:[59]

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58. WO 95/29, *QMG War Diary, April 1916*, Appendix 4.b.h, Haig to The Secretary, War Office, 23 April 1916: unless otherwise noted, all references in this paragraph come from this letter

59. WO 95/31, *QMG Branch, War Diary, August 1916*, Appendix Z

Table 4:1: Labour Situation, August 1916

Requirements		Availability		
Location	Number	Type	Number	Date Available
Roadmaking	2,000	11 R.E. Battalions	9,200	Immediate
Forestry	11,000	20 Infantry Labour Battalions	20,000	Immediate
Quarrying	1,500	1 Railway Labour Battalion	1,000	Immediate
Base Ports	24,000	29 ASC Companies	15,580	Immediate
Road Maintenance	17,000	Civilians in Forests	1,400	Immediate
Railways	5,000	8 Non-Combatant Companies	800	Immediate
Tactical Labour	4,000	6 POW Companies	3,400	Immediate
		Other	117	Immediate
		6 Infantry Labour Battalions	6,000	August
		1 Battalion 'Capeboys'	1,000	September
		2 POW Companies	850	Uncertain, September Probable
Total	64,500	Total	51,497 59,347	Immediate September
		Shortage	13,003 5,153	Immediate September

Clearly, roads, forestry, and bases took a large quantity of available labour, while very little was available for 'tactical' work in the front areas - this meant that the infantry had to undertake a considerable quantity of tactical work themselves. Further, it is evident that a rather small fraction of the BEF's man-power actually worked to move the supplies forward. By September, the limited number of companies available had been well distributed throughout the BEF. Table 4:2 illustrates this distribution and shows the preponderance of labour on the lines of communication and in the two armies carrying out offensive operations - Fourth and Reserve:

Table 4:2: Distribution of Labour, as of 2 September 1916[60]

Location	Number of Battalions/Companies	Approximate Percentage
First Army	0.5 Battalion R.E. 1 Battalion Infantry Labour	2.29
Second Army	3.5 Battalions R.E. 4 Companies Belgian Travailleurs	8.40
Third Army	1 Battalion R.E. 1 Battalion Infantry Labour 3 POW Companies	5.34
Fourth Army	1 Battalion R.E. 6 Battalions Infantry Labour 4 POW Companies	13.74
Reserve Army	2 Battalions R.E. 2 Battalions Infantry Labour 4 POW Companies	9.16
Railway Directorate	1 Battalion R.E. 4 Battalions Infantry Labour 1 Battalion R.E. (Railway)	9.16
Works Directorate	2 Battalions R.E. 2 Companies R.E. 5 Battalions Infantry Labour 6 Non-Combatant Companies 1 Quarry Company 1 POW Company	18.32
IGC	29 ASC Companies 6 Battalions Infantry Labour 2 Non-Combatant Companies 1 Battalion 'Cape Boys'	33.59

By September, therefore, Haig's rear areas had more than originally asked for, but had retained the use of the expensive Belgians and really had far less than they required. However, the needs of the lines of communications, as illustrated in Table 4:1, amounted to more than seventy percent of the labour available, and just over sixty

60. WO 95/31, *QMG Branch, War Diary, September 1916*, Appendix IX.46. The approximate percentage figure has been arrived at using a rough estimate of 2 Companies equalling one Battalion in strength. Alternate figures for a ratio of 3:1 are: 2.66%, 8.57%, 5.33%, 14.79%, 9.46%, 10.65%, 17.75%, and 30.77%. In either case, the line off communications took up a large portion of available labour.

percent was actually deployed on those lines.[61] As a result, repairs, construction and movement of supplies slowed down. So serious was the demand for man-power at the front, that skilled men of military age serving in such rear area services as the Army Postal Service had to be 'combed out.'[62] The QMG, clearly on the advice of the Postmaster-General, wrote that there were 2,000 men of the Royal Engineer Special Reserve serving in the Army Postal Service (APS) in France. Of these, 650 were of military age. The QMG was willing to accept 150 trained over-age men from the Home Postal Service who were not fit for active service, but could manage hard work. These would replace men of military age. The QMG further replied to a War Office inquiry that once this initial batch had been assimilated, more could be sent.[63]

To meet the labour crisis, GHQ looked to new means of finding labour and to a reapportionment of some existing labour in France. For example, in December 1916, Home Authorities put forward the proposal that women be employed in France as clerks in the rear areas, so easing the man-power difficulty. In a letter to his Directors, the QMG wrote:

> This proposal has been accepted in principle. The main difficulty lies in the provision of suitable accommodation, but this, in itself, should not prove insurmountable. The intention is to form a definitely organised corps of women clerks, under women officers with women cooks etc.

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61. Table I shows a requirement of 64,500 men, of whom practically all involved in forestry, quarrying, base ports, and railways and significant portion of those involved on the roads were behind the railheads. As Table 4:2 shows, only sixty-one percent of the labour was in use behind railheads.

62. The subject of over-all British manpower availability is too broad a political question to be dealt with here. For an assessment of the British manpower crises at the political level, see R J Q Adams and Philip Poirier, *The Conscription Controversy in Great Britain, 1900-1918* (London: The Macmillan Press, 1987), particularly chapter 10 and 11 which deal with Passchendaele and 1918.

63. WO 95/32, *QMG Branch, War Diary, December 1916*, C-in-C to The Secretary of State for War, 19 December 1916

> The Corps would be in every way a military organisation, the members being suitably uniformed and equipped.[64]

The QMG thought that the larger bases of Abbeville, Montreuil and Hesdin were suitable areas, and asked the Directors to consider how many men could be replaced. Also in late December, the decision was made at a meeting at GHQ that all demands for unskilled labour would be made, ultimately, to the QMG.[65] This decision was made to satisfy the DRT that he had control over the distribution and use of skilled railroad labourers and therefore that he had the means to keep repairing railways as he needed to, rather than going through an intermediary.

In addition to the labour problems, the railways faced difficulties brought about by a rolling stock shortage.[66] A series of follow-on effects resulted:

> Following this [rolling stock shortage] we were notified that even when trucks were available trains would have to be strictly limited in number below what we knew the carrying capacity of the trunk lines, because of a lack of engine power, lack of drivers, lack of coal. Then came a reduction in the capacity of the lines themselves because the shortage of maintenance labour and materiel made it impossible to keep them in condition.[67]

The Director of Ordnance Services felt that the blame for the shortage of rolling stock in November could be laid on the French for failing to supply enough for British needs. This can be understood somewhat when it is realised that he faced a daily shortage of

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64. Ibid., QMG to Directors of Administrative Services, 16 December 1916

65. Ibid., Meeting Held at GHQ on the Question of Labour, 19 December 1916

66. Cf WO 95/58, *Director of Ordnance Services, War Diary, August 1914 to December 1916*: see especially 20 November 1916 and 30 November 1916 where he gives the shortages at Havre alone. These averaged 62 wagons (1.5 trains) per day for three weeks.

67. M G Taylor, 'Land Transportation in the Late War,' a lecture presented at the Royal United Services Institute and published in the *JRUSI*, Volume LXVI, 1921, 704.

wagons in the middle of the month of seventy-six (roughly two full trains).[68] The lack of rail control under the IGC, who placed orders based on the needs of the troops, not on the availability of rolling stock, meant that supplies back-logged in the ports. This slowed discharge of shipping, further back-logging things in a vicious circle which threatened to paralyse much of the system, even for those supplies that did not have to be moved to France.

Not all BEF supplies had to be moved to France, and the BEF had made efforts to reduce their shipping requirements by acquiring as much as they could in France. However, these supplies reflected similar problems to those encountered on the railways - the British had to continually undertake negotiations and relied on the goodwill and cooperation of their French partner to make this work. Timber, for example, could be partially acquired in France, but only through agreement with the French and at a cost in manpower. The difficulty which both the French and British Armies in France had in acquiring sufficient timber caused problems in 1916 as much of the demand was imported from overseas, and the French were reluctant to simply cut down available French timber. Timber was used by both armies for fuel, trench supports, stakes for wire, material for hutting, railway sleepers and the like. Over-all, the demands for timber were very high. In mid-1916, the difficulties in meting out demands for timber led to the British and French governments creating what was effectively an inter-allied timber group. The difficulty that had to be faced was the shortage of freight to move the timber to France.[69] Lord Derby believed that the French could make more use of the forests in France proper, thus reducing the shipping requirements. The conference held in the QMG's office at GHQ on 8 August 1916

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68. WO 95/58, *Director of Ordnance Stores, War Diary*, 21 November and 30 November 1916

69. WO 95/31, *QMG Branch, War Diary, August 1916, Conference Held on 8th August, 1916, To Consider Formation of a Central Purchasing Committee for Supply of Timber for Allies, and Reduction of Shipping*

concluded with a number of recommendations taken by the Director of Army Contracts to Paris, but still no agreement that would lead to a reduction in shipping.

On 20 August, Haig was advised that the Army Council had acted on a recent meeting between the BEF's QMG and the Director of Army Contracts which had made clear the BEF's desire for timber co-ordination. This meant that less timber had to be handled in French ports, and, hopefully, would ease some of the railway difficulties by reducing the amount that had to be moved out of those ports. The Director of Army Contracts went from GHQ to Paris where he and the French Minister of War had worked out the draught of an agreement on this.[70] In the agreement, a battalion of Canadian lumbermen was placed at the disposal of the French. This battalion was to be allotted an area of pine forest to be stripped, with the lumber being split equally between the BEF and French Armies.[71] The British and French governments also agreed to continue purchasing timber through the Commission Internationale d'Achats de Bois, but that an additional French forestry representative and three British representatives would be added. The C-in-C's of the French Belgian and British Armies were required to submit to the Commission their timber requirements and urgency for at least three and preferably six months in advance. The goal was to give the Commission full information on needs and on the progress of work in British and French forests, so that they could keep the Admiralty informed as to the tonnage of shipping required to move the timber that could not be produced in France. If the shipping fell short, then the Commission would require the C-in-C's to consult and determine their allotments. Further, should there be surplus shipping, the Commission would endeavour to build up stocks of timber in France.

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70. WO 95/31, *QMG Branch, War Diary, August 1916*, B B Cubitt to Haig, 20 August 1916

71. WO 95/31, *QMG Branch, War Diary, August 1916, Draft Agreement Between French, Belgian and British Governments for the Co-ordination of Requirements and Supply of Timber*: unless otherwise noted, the paragraph which follows refers to this agreement.

Haig's response to the plan was mixed. He already had the agreement of the French to fell some of the BEF's timber needs in France and was concerned that the lending of the Canadian lumbermen to the French would seriously hamper the BEF's local timber production. This had been allowed by the French, because the British Authorities were not meeting his demands for additional labour. Further, he would rather have seen the Commission in an advisory position - where they could exert no control over the BEF. He wanted this because he felt his army was far more dependent on Home authorities for the meeting of needs than the French, and he was concerned that there was no mechanism for the fixing of responsibility in the event of shortfalls.[72] He did, however, see to it that the timber requirements were drawn up.

Following the decision to expand the powers of the International Commission, the BEF instituted monthly conferences to determine their timber needs. The first of these was held on 1 September and helps to illustrate the problems the BEF faced as it went into its third winter in the trenches.[73] The consolidated statement shows that the War Department was required to arrange for the provision of 71,878 tons of timber not allowed for by contracts. This was out of a total need of roughly 100,000 tons. The conference then went into a discussion of whether coal could be used for fuel rather than wood. This would save considerable tonnage, in theory. The difficulty that came to light was that it was unlikely that enough coal could be had from French mines to meet needs, as they had not met the monthly requirements of the year before. Wood was bulky and uneconomical to import, however, so the result was for the QMG to prepare to approach the French with the idea of using coal in place of fuel wood. This would save nearly 30,000 tons at the ports and bring the import requirements within the

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72. WO 95/31, *QMG Branch, War Diary, August 1916*, Haig to The Secretary of State for War, 28 August 1916

73. WO 95/31, *QMG Branch, War Diary, September 1916, Conference Held at QMG's Office on 1/9/16 to Consider and Consolidate the Demands for Timber for the Month of December*: unless noted, all facts and figures which follow are drawn from this source

capacity of the ports. Three months later, timber was still a grave concern, as the BEF planned for March.[74]

At the end of October 1916, the lumber agreement with the French was finally hammered out. A Franco-British War Timber Commission was to be based in London.[75] In the new draft agreement, the French agreed to place sufficient woodlands at the British disposal as would occupy 2,200 Canadian Lumbermen during the agreement. It was decided to try to arrange woodland that could be stripped, but if this could not be done, French Forests Regulations had to be observed.[76] These forests would be provided free of charge to the British Government and the disposal of the timber felled was to be allocated to the BEF, unless the location of the forest made it more sensible to exchange timber on the lines of communication. If more lumbermen could be raised, the French would endeavour to place more forest-land at the BEF's disposal. In this case, however, a sharing formula would be created, or the British would pay rent for the land to be felled. Both governments reaffirmed their decision to purchase lumber through the Commission Internationale d'Achats de Bois, and six new members were added which better suited the desires of the British C-in-C. This rounded out another of the numerous administrative problems sorted out, in this case quite well, during the Battle of the Somme. Others had not been so well solved.

The Somme Offensive has been well studied by historians. Recently, Tim Travers has illustrated the near-paralysis of the BEF's commanders in the face of Haig. Robin Prior and Trevor Wilson have shown that the failure to adequately analyze the problems they faced meant operational difficulties for Rawlinson on the Somme.

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74. WO 95/32, *QMG Branch, War Diary, 1 December 1916*

75. WO 95/32, *QMG Branch, War Diary, October 1916*, B. B. Cubitt to C-in-C, 30 October 1916, Appendix X.166.A

76. WO 95/32, *QMG Branch, War Diary, October 1916, Draft Agreement Between the British and French Governments for the Co-ordination of Requirements and Supply of Timber*, 23 October 1916, Appendix X.166.A

Paddy Griffith, on the other hand, suggests that the Somme was one of the War's pivotal battles because it 'taught the BEF many lessons and transformed it [the BEF] from a largely inexperienced mass army into a largely experienced one.'[77] In none of these studies, however, has the administration of the lines of communication come under scrutiny. This chapter has shown that those lines of communication performed reasonably well up until high summer. Then, the cumulative demands of the Offensive led to a systemic near-failure of the maintenance system of the BEF which was still based on the ad hoc alterations of 1914 and 1915. The problems in the rear areas brought about by a lack of overall transportation policy and the patchwork nature of the whole system were compounded by a shortage of rolling stock and the battlefield interdiction of supplies. The latter must not be placed at the feet of the administration, however, for one of the primary goals of each side in the battle area must be to make life as miserable as possible for one's foe. Indeed, in spite of Edmonds comments in the spring that:

> Were it not for the tragedy it would be a comedy. We have not discovered a single good general or staff officer except Sir William Robertson. I believe there is plenty of talent in the army but it doesn't come to the top...[78]

the administration had performed reasonably well. Such problems as occurred were the result of the massive expansion of the BEF and the lack of a model for them to work to. Had Britain maintained, prior to the war, a half-million man army with additional reserves ready for call-up, then these problems would likely not have occurred.

A solution had to be found before the BEF could learn and utilise the lessons Paddy Griffith refers to. The transportation system, in spite of the best efforts of the administration to patch it up, could not properly sustain the Somme. Until a system had been created that could, the BEF's future offensives would invariably have the

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77. Griffith, *Battle Tactics of the Western Front*, 65.

78. Edmonds to Wilkinson, 15 March 1916, Edmonds Papers II/1/133, LHCMA

same character as the Somme - a prolonged drive into German lines, using ever increasing quantities of ammunition and increasingly damaging the transportation infrastructure until the offensive could no longer be maintained. If pushed too far, the system might actually seize up and the BEF could prove extremely vulnerable to a counter-stroke. As a result, Haig turned to a civilian railway expert to sort the problems out.

Figure 4:1
Heavy (Medium) Artillery Availability, 1916

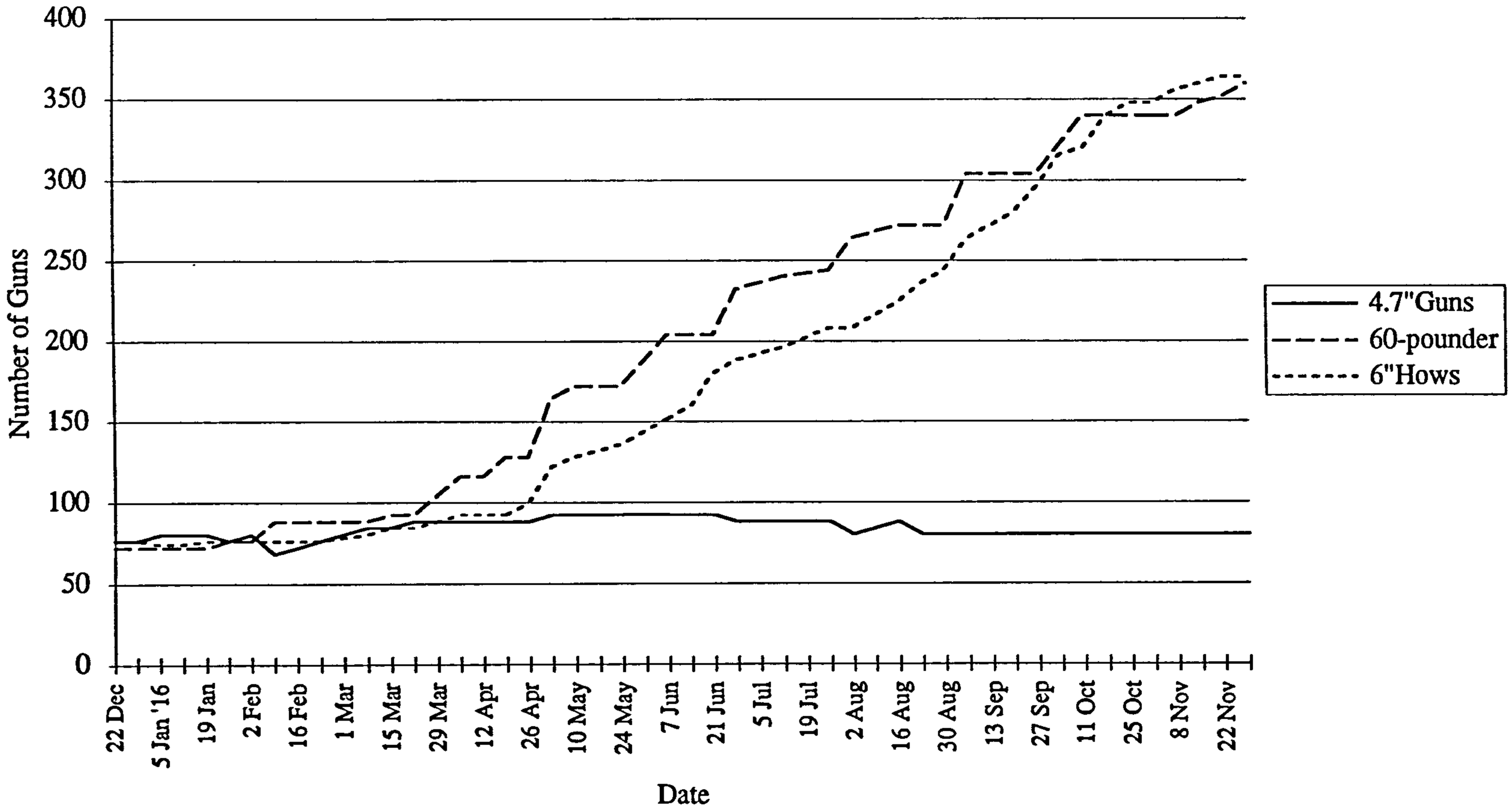


Figure 4:2
Heavy Artillery Availability, 1916

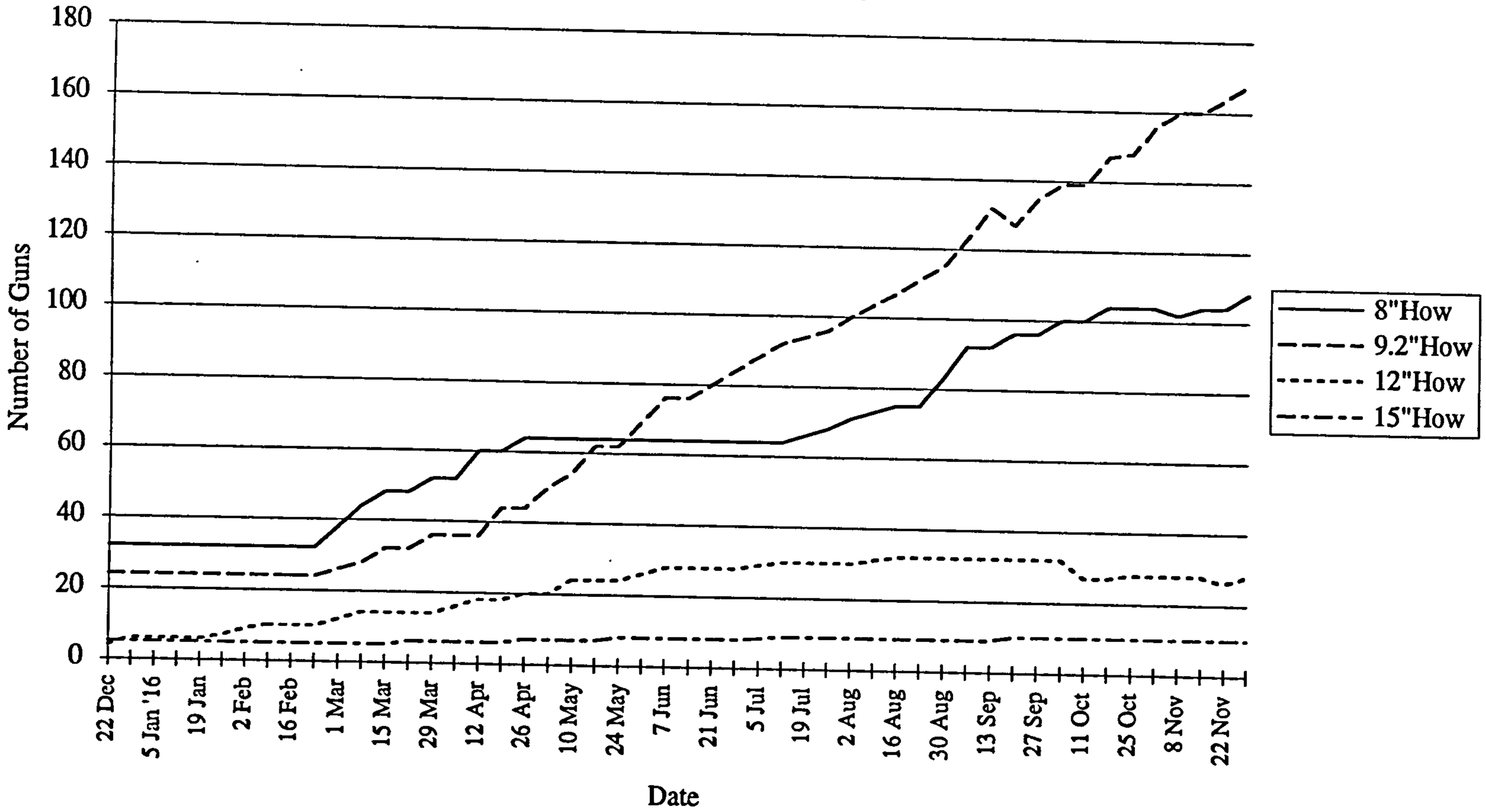


Figure 4:3
Field Artillery Availability, 1916

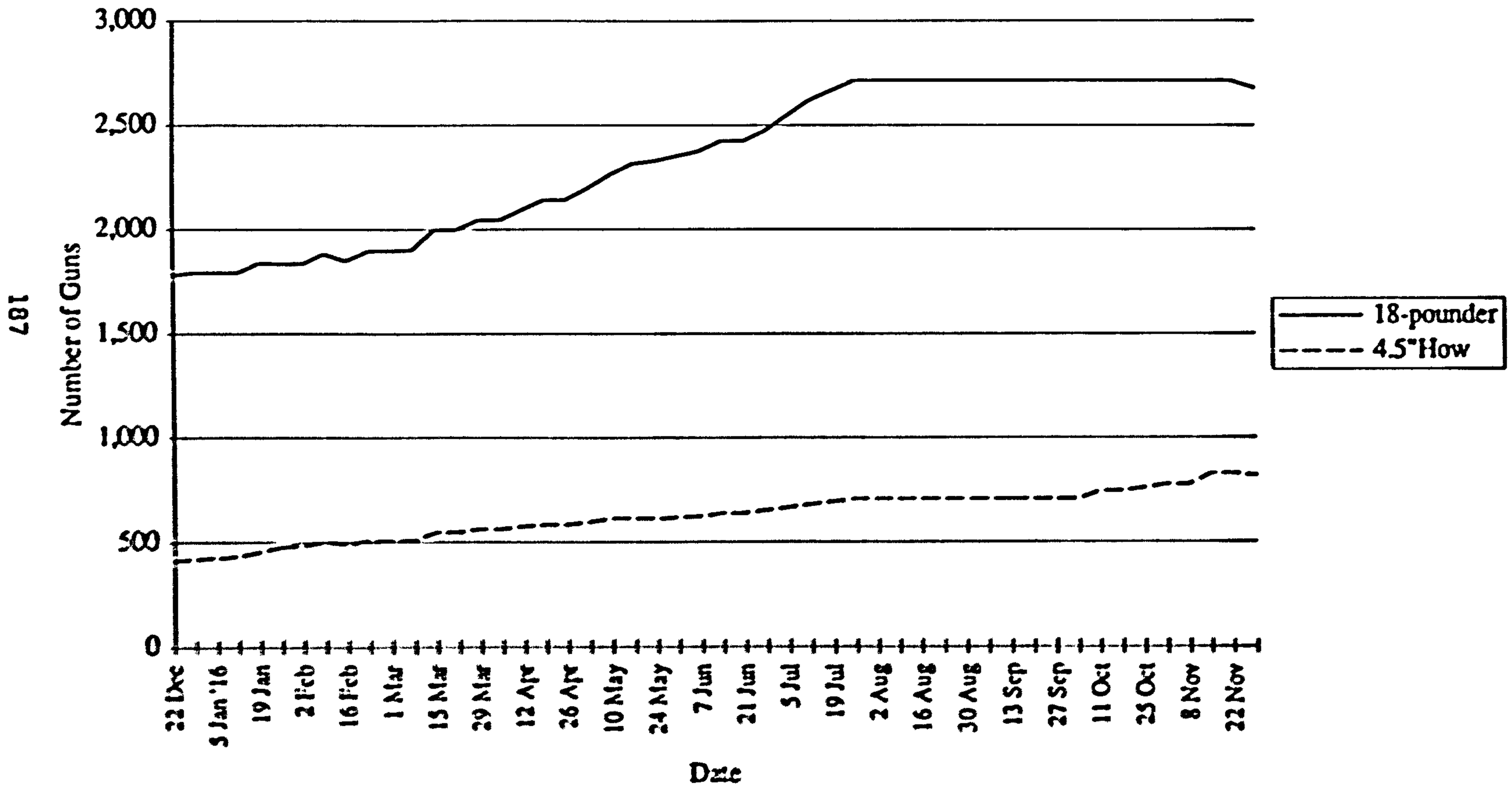


Figure 4:4
BEF Strength, 1916

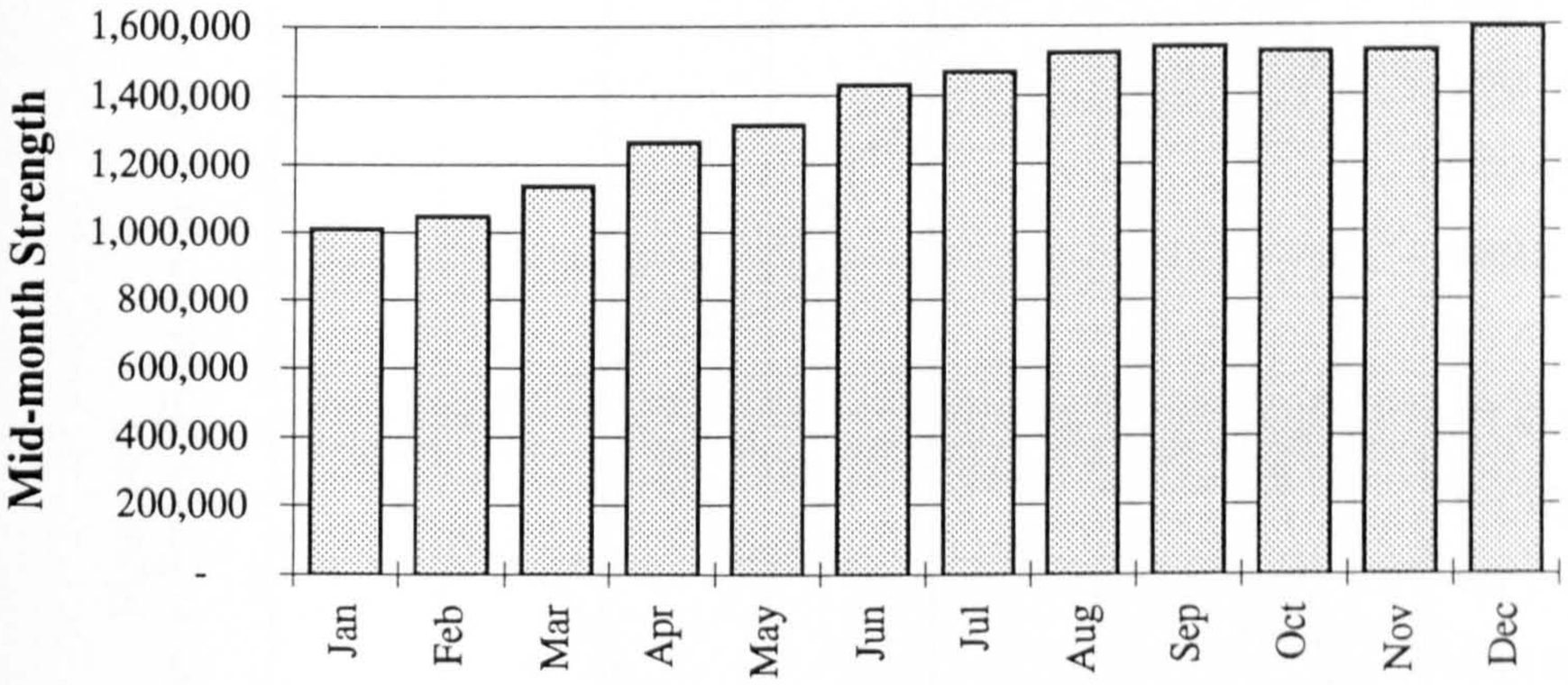


Figure 4:5
Number of Rounds in France, Field Artillery, 1916

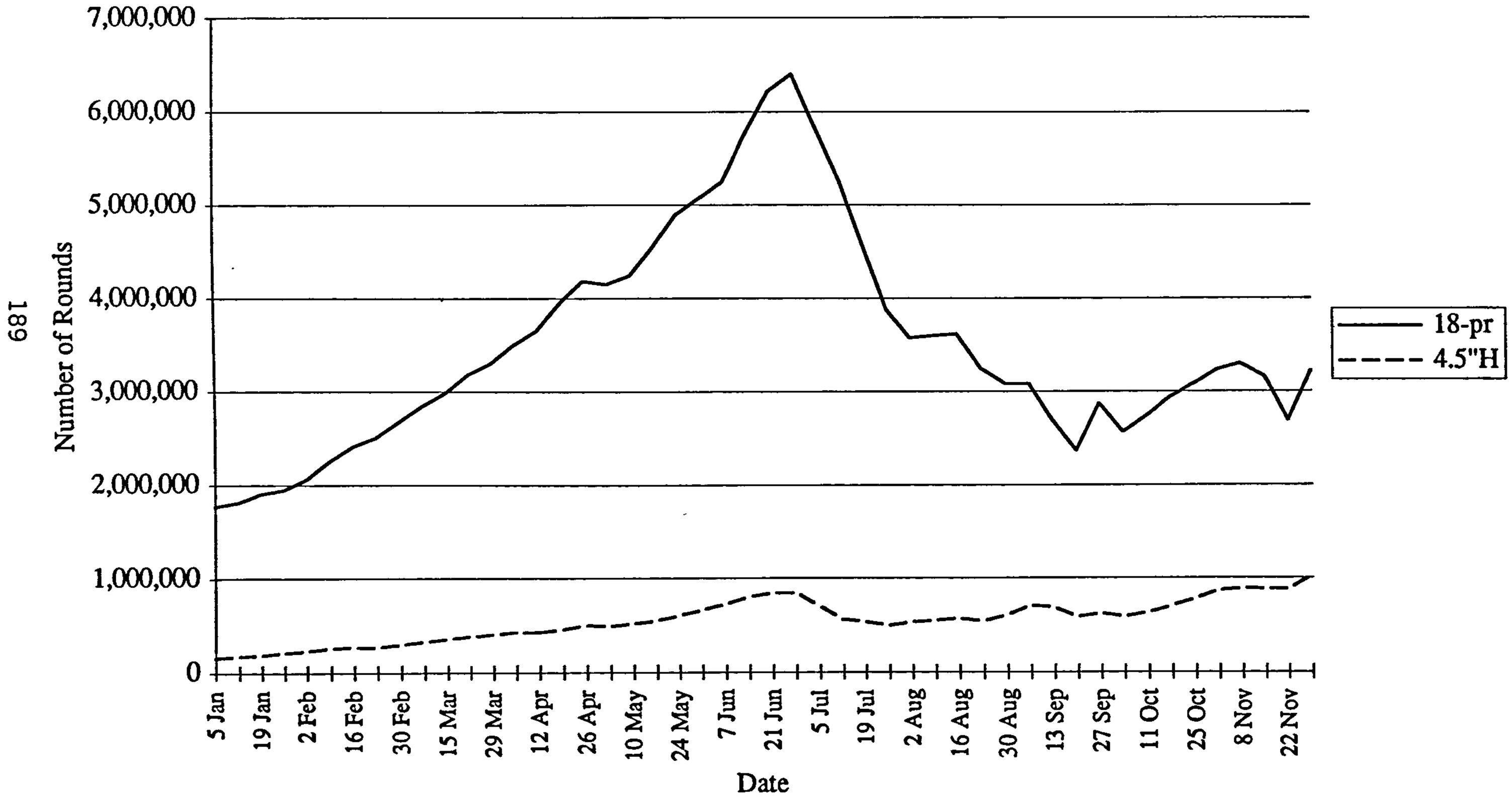


Figure 4:6
Ammunition Expended, Field Artillery, 1916

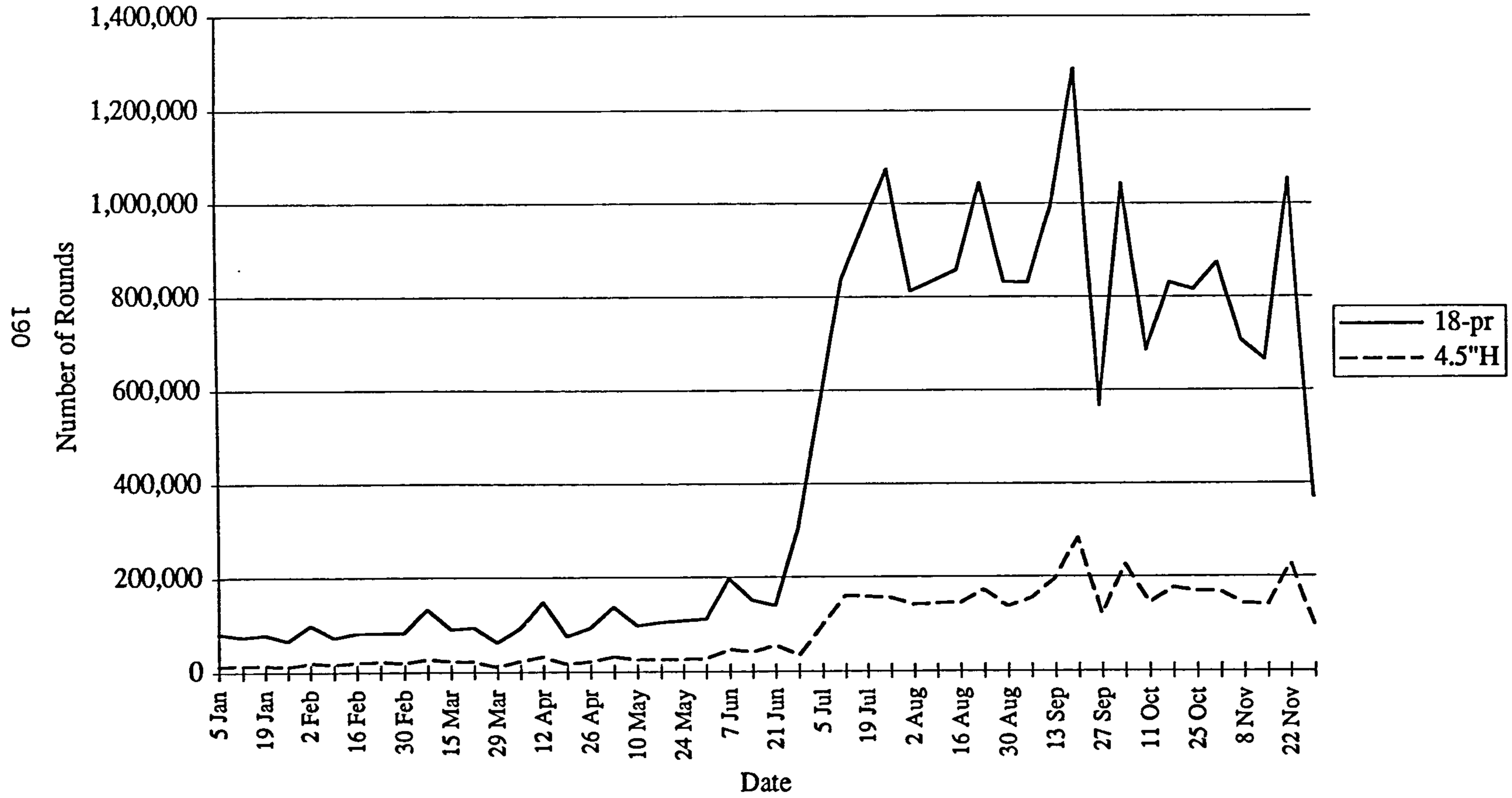
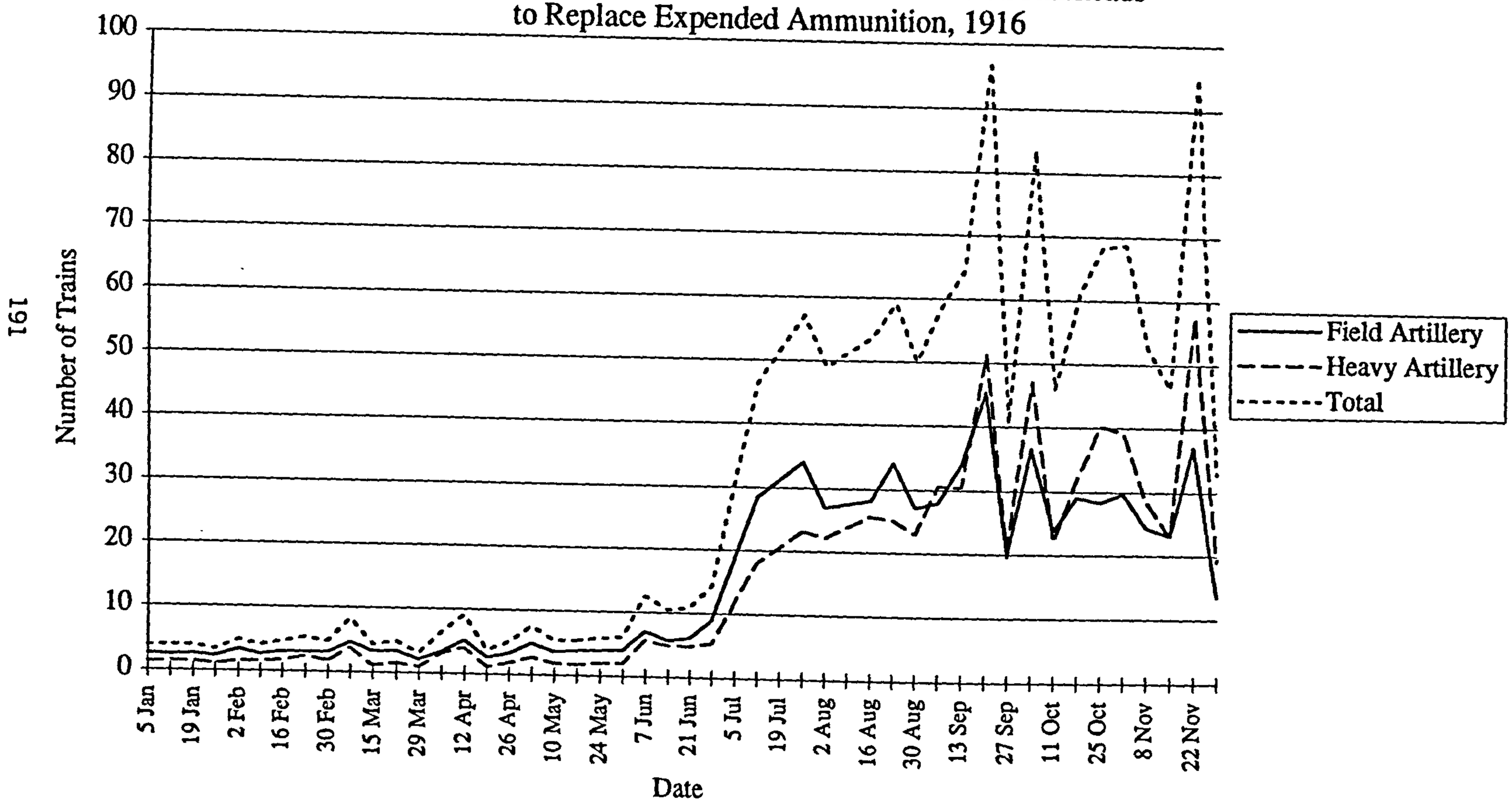


Figure 4:7
Estimated Number of Trains Run to Ammunition Railheads
to Replace Expended Ammunition, 1916



Chapter 5

The End of Ad Hocism:

Sir Eric Geddes's Reorganisation of the BEF's Transportation System and the Arrival of Forecasting

The near-breakdown of the BEF's transportation system during the Battle of the Somme necessitated a change in the way the line of communications moved supplies. While Haig at first proved amenable to a continuation of the method whereby his administrators made ad hoc changes as necessary to overcome problems, this did not work in 1916. Something else had to be done since the BEF had nearly reached its breaking point. Rather than breaking, the BEF turned to a civilian, Sir Eric Geddes, who ultimately rationalised and streamlined the BEF's Transportation system.[1] Geddes's arrival ended the ad hoc system of transportation which had evolved in the BEF, laid the groundwork for more effective administration, and provided the underpinning for doctrinal innovation and advancement. GHQ, at the end of 1916 and in early 1917, became an administrative military institution which, with only minor adjustments in 1918, remained unchanged through the end of the war. Until the problems which beset the BEF during the Somme had been sorted out, however, few advances could take place.

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1. In spite of his importance to the BEF and War Office, Geddes's papers from the 1914-18 period which deal with movements and railways have not survived. At the PRO, ADM 116 contains seven volumes of correspondence, but only two or three letters could be said to relate to transportation in the British Army; CAB 45/114 contains one letter only; and SUPP 12/1 is a file of Ministry of Munitions material. The rest of the PRO's Geddes files relate to the post-war administration of British railways. There is a good deal of information contained in the Lloyd George Papers, House of Lords Record Office, as Keith Grieves has illustrated in his informative biography *Sir Eric Geddes: Business and Government in War and Peace* (Manchester and New York: Manchester University Press, 1989). Another biographical study is Lawrence Roe Buchanan, *The Governmental Career of Sir Eric Campbell Geddes* (Ph.D. Dissertation: University of Virginia, 1979). An excellent source for Geddes in 1916 proved to be a small collection of files (MSS.191, Sir W G Granet Papers) held at the Modern Records Centre, University of Warwick - hereafter MRCUW.

Problems with transportation, even if largely ignored by tacticians before the Somme, helped to determine its outcome. A systemic breakdown of the BEF's transportation system greatly exacerbated Rawlinson's difficulties on the Somme in October and greatly limited his ability to move forward. In a Fourth Army note of November 1916, Lieutenant-General Pulteney wrote that two of his Divisional Commanders reported, 'that the present conditions are very bad and that it is with difficulty that they can carry out reliefs and keep men supplied with rations and ammunition in the front line.'[2] The combination of the BEF's increased size, the increase in numbers of heavy guns, and the demands of a major offensive exacerbated the problem because the administration could not keep up with these newly increased demands. While labour shortages had been somewhat lessened, the real problem of transport and coordination remained. While Rawlinson saw light railways as a potential solution to his problems, the BEF had neither a coherent light railway organisation or doctrine, nor, more importantly, a centralised transportation authority or coordinating body. It remained an essentially ad hoc construct based on the old *Field Service Regulations, Part II (1912)* and no longer equal to the task. The arrival of Sir Eric Geddes on 1 September, by appointment of The Secretary of State for War, changed this.[3]

Geddes began a process which revised the BEF's transport arrangements completely. On 15 September, Geddes wrote a private letter to Lloyd George in which he expressed his preliminary opinion on the BEF's transport situation.[4] He felt that the problem was a two-fold one of labour and transport. On the question of labour,

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2. Fourth Army 305/1 (G), 27 November 1916, *War Diary, Fourth Army (General Staff), 5 Feb 1916 to 23 June 1916 and 17 Nov 1916 to 31 Mar 1917*, Montgomery-Massingberd Papers, Box 50, LHCMA

3. WO 95/3970, *IGC, War Diary, 1 September 1916*

4. Geddes to Lloyd George, 15 September 1916, Sir W G Granet Papers, MSS.191/3/3/4-13, MRCUW

Geddes felt that a constructive policy on the issue would save labour and increase efficiency. He appended a note that the QMG and AG had announced the creation of a Directorate of Labour, and Geddes must have been encouraged by this because it indicated that GHQ had recognised the problem and acted on it. Labour, though a serious problem as discussed in chapter four, was the lesser of the two problems faced by the BEF. If necessary, the BEF could have ceased offensive operations and found the labour by holding a defensive front and stripping it out of divisions. The BEF's real problem was how to repair its faltering transportation system without such a drastic and desperate decision. This was Geddes's mandate.

Geddes broke transportation down into five categories: docks, railways, canals, light railways and roads.[5] The docks problem he felt would be sorted out by another small group of specialists, which included a number of civilian experts, currently touring French ports so he left it in their hands. As far as the railways were concerned, he had yet to meet with the French Authorities. This was vital, as at the time, the BEF only controlled 34 engines. Geddes doubted that a canals' policy existed, and believed that the BEF only used inland waterways when rail was not available. He stated, on the question of light railways, that the C-in-C was most anxious about it, that the C-in-C desired a policy for their use, that he felt they would be useful, and that no policy existed - in spite of the French Army's extensive and valuable use of tactical light railways. Finally, Geddes was very concerned about the roads. He noted disagreement between Armies and the QMG as to whether the quantity of roadstone was sufficient. The QMG had filled all demands, but the Armies were not satisfied. Geddes blamed this on Armies' second guessing as to the quantity of roadstone likely to be available, rather than placing orders for what they actually needed. Further, he wrote that there was no roads policy in case of an advance. However, the roads would

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5. Geddes to Lloyd George, 15 September 1916, Sir W G Granet Papers, MSS.191/3/3/4-13, MRCUW: unless otherwise noted, all references in the following paragraph are from this letter.

not entirely solve the difficulty of supply over a shattered piece of recently won territory.-

This overview led Geddes to conclude that no administrative policy existed that was capable of addressing movement and that such a policy was necessary. He argued that, 'This is a war of Armies backed by machinery and "movement" and I do not think that "movement" has received sufficient attention in anticipation of the advance.'[6] He closed with the recommendation that the entirety of the BEF's transportation system be placed under one man. He believed that the French could be relied on to deliver the BEF's needs by rail, given sufficient notice of those needs, but that the BEF should create a new system immediately and not after a lengthy process of reports and the like. Having explained the difficulty - essentially, the BEF suffered from the lack of an overall, coherent transport policy caused by the ad hoc nature of the system that evolved in 1915 and 1916 - Geddes closed with some private misgivings about how his report was likely to be received at GHQ. He knew, for example, that the IGC had not reacted favourably to a previous dock report put together by a civilian expert. The IGC's comments were attached to the letter, and essentially boiled down to partial agreement with Mr Royden's Docks Report, but significant disagreement on needs, as he felt the authors had not considered the military needs of the ports and looked at them from a purely civilian standpoint.[7] Geddes also stated, however, that a number of officers at GHQ, and most importantly the C-in-C were concerned with the current system.

Geddes's pending arrival marked the beginning of changes that would revitalise the BEF's transportation system and eliminate the push-pull system and most likely the IGC along with it. While Clayton initially showed concern over this, he eventually

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6. Ibid.

7. Remarks by General Clayton on the Report of the Commission sent out by the Shipping Control Committee, no date, Sir W G Granet Papers, MSS.191/3/3/14-24, MRCUW

embraced the new proposal as it would improve the system. This had to be the case, since the push-pull system which had evolved in the BEF could no longer be maintained, and GHQ had to move to more effective central control over it. On 10 October, he told Haig that the new system 'would work well' and that 'he wanted to help in the changes as much as possible.' Clayton had realised that either his post, or that of the QMG would have to go, and he knew it could not be the QMG.[8] Shortly afterwards, Geddes began to put the transportation system in order, but not without some opposition.

Clayton's fears had been shared by the QMG (Maxwell), who, at first, threatened to resign if the new organisation went through. After quite an effort, Haig managed to get things cleared up in Maxwell's mind. Haig had felt Maxwell to be confused about the difference between a Staff Officer, Commander, and Director and that both Geddes and Maxwell had no real grounds for disagreement. In the end, Haig had to reassure Maxwell that Geddes had not, in fact, been sent out by Lloyd George to replace him as QMG. Haig wrote that 'This seemed to ease his mind! And he said that he would tell his Directors to stop criticism.'[9] In many ways Haig was lucky that matters did not get worse, for Geddes's arrival represented a signal change in the way in which the BEF ran its supply system. What they had finally initiated was a system in which daily needs were 'pushed' up automatically, and where extra requirements could be 'pulled' by the officer that needed them the most - the QMG, rather than formation commanders who often demanded too much of the lines of communication. Geddes's arrival marked the beginning of the application of civilian methods, particularly statistical forecasting, to the use of transportation in France.

Geddes faced such resentment and struggled against early criticism directed at him largely because he was a civilian and did not have a crystal clear place in the chain

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8. WO 256/13, *Haig, Diary*, 10 October 1916

9. Ibid., 30 October 1916

of command, but succeeded because of support both in France and England. There was significant resentment at GHQ at the idea of a civilian holding a very powerful and influential position at GHQ - Geddes received the honourary rank of Major-General to aid him in his position as Director-General of Transportation (DGT). To the criticism, Haig wrote a rather angry, pragmatic and most enlightening rebuttal in his diary:

> There is a good deal of criticism apparently being made at the appointment of a civilian like Geddes to an important post on the Headquarters of an Army in the Field. These critics seem to fail to realise the size of this Army and the amount of work which the Army requires of a civilian nature. The working of the railways, the upkeep of the roads, even the baking of bread, and a thousand other industries go on in peace as well as in war! So with the whole nation at war our object should be to employ men on the same work in war as they are accustomed to do in peace. Acting on this principle I have got Geddes at the head of all the railways and transportation with the best practical civilian and military engineers under him. At the head of the road directorate is Dr Maybury, head of the road board in England. The Docks, Canals and Inland Water Transport are being managed the same way, i.e. by men of practical experience of these matters. To put soldiers who have no practical experience of these matters into such positions merely because they are generals and colonels, must result in utter failure![10]

It is evident that Haig wanted efficiency on his lines of communication, and happily used civilians if that meant an improvement to the military system then in effect. Haig followed up this observation with a general willingness to work with Geddes. When Haig discovered the initial resentment in his administrative officers, he wrote, 'I said that I am glad to have practical hints from anyone capable of advising.'[11] Luckily for Geddes (and the BEF) Lloyd George shared the same beliefs about his mandate. Lloyd George had written Haig on 27 September to ask that Geddes 'be given a very free hand and the personal support of yourself and myself.' In this Haig fully concurred, writing Lloyd George:

> It is my intention to give Geddes as free a hand as possible and to give him my personal support, but it is essential that changes shall be made gradually and without upsetting the existing organization, which has

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10. Ibid., 27 October 1916

11. Ibid., 24 August 1916

> done excellent work under very difficult conditions and has never failed me up to date.[12]

This comment is particularly interesting for, although it appears that Haig remained unconcerned about the supply situation, the very fact that Geddes had come to France indicates the opposite. Haig, and indeed most senior officers, proved very reluctant to sanction change *unless* he could be convinced that a tangible improvement would result. As a result, Geddes's arrival indicates grave concern on Haig's part and much of the above passage reflects an apologia of sorts to his IGC, whom Haig knew had done his very best for the BEF since his arrival in early 1915.

Bolstered by the support of Lloyd George and Haig, Geddes proved highly influential at both the War Office and in France making him the perfect choice to sort out the transportation problems in France.[13] Geddes was one of a number of personnel and managers from British railway companies who held important transportation and movements posts during the War and was thus in a position to exert considerable influence on British railways and to see where things had gone wrong in France. At the end of 1916, when being Director-General of Military Railways, Inspector-General of Transportation and Director-General of Transportation in France began to take up a great deal of time, he handed much of the responsibility for the Director-General of Military Railways' post over to Sir W G Granet, a former Midland Railway General Manager so he could concentrate on his job in France. The Director-General of Military Railways oversaw all rail, light rail, docks, road and canal work in all theatres of the War and had put Geddes in the position to see where military men went wrong. On 19 October, when setting out the needs of the post to Granet, Geddes made the startling

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12. Ibid., 27 September 1916, Lloyd George to Haig, 27 September 1916; Haig to Lloyd George, 1 October 1916

13. The former General Manager of North Eastern Railway prior to the War, Geddes had been very useful to Lloyd George at the Ministry of Munitions, then held the post of Director-General of Military Railways at the War Office, and became both Inspector-General of Transportation at the War Office and Director-General of Transportation for the BEF in late 1916.

observation that:

> Generally speaking, the soldier, as opposed to the civilian, asks for less than he really ought to have and - in my private opinion - this is due to the way in which he has been made to cheespare, and the fear he has of the Treasury, on account of the lean years before the war; throughout, the soldier has almost consistently put forward demands far below the real needs of the situation.[14]

This applied to demands for transportation, and shows that the military, prior to the war, did not fully account for their transport needs. Geddes had no such problem, indeed, the he took the opposite approach to the point that he was accused of extravagance. Indeed, after the war Geddes responded to suggestions of extravagance and defended his approach by stating 'I have seen criticisms that the work was extravagantly done. All war is extravagant, and provision for the great unforseen contingencies of war necessarily involves what must appear surplus provision.' [15] Geddes immediately began ordering vast quantities of material from Britain.

The most pressing of Geddes's problems concerned the railways - the backbone of the BEF's line of communications. Pre-war estimates had not adequately anticipated British railway needs - primarily due to financial problems.[16] As a result, the nature of railway expansion in France through early 1916 exhibited a great deal of 'ad hocism.' Railways, however, remained vitally important, because once the formations to be supplied were further than thirty miles from the ports, the railways had to handle the majority of the load - thirty miles being the approximate limit of what could be reasonably be expected from motorised and horse-drawn supply columns. Congestion on the broad gauge railways proved a major problem, since Geddes saw that the BEF

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14. Geddes to Granet, 19 October 1916, Sir W G Granet Papers, MSS.191/3/3/49-59, MRCUW

15. ADM 116/1810, A/474/i, Speech at the Dinner of the National Alliance of Employers and Employed, 28 January 1919

16. E P Anderson, 'The Railway Organization of an Army in War,' *JRUSI*, Volume LXVII (487), February to November 1927, 502.

had no practical control over their railway needs - trains being run by the Commission Regulatrice.

Geddes sought British control of all British railways, a goal that eased Anglo-French relations because the French had been demanding the same. The French Authorities had asked for assistance managing the railways because they had similar difficulties of their own - congestion on 'British' routes caused follow-on problems on 'French' lines. The first request, in May, raised the issue of British control of their railways in France, but achieved nothing because the BEF, at the time, remained content with the French efforts on their behalf. The second, once Geddes arrived, led him to consider the possibility of the BEF controlling all of its railways because he believed that the BEF depended too heavily on French railways.[17]

If the BEF took over the railways in its rear areas, it would have to overcome another problem evident in its reliance on the French - the absence of British rolling stock. Geddes calculated that the BEF would ultimately have to maintain up to 54,000 wagons, and 753 locomotives on the Franco-Belgian frontier, a dramatic increase over what they had available at the time. Geddes also felt that the BEF had relied too heavily on French railways. To reduce this reliance, he had placed, by late November, orders for 1200 miles of track, 2.7 million sleepers (roughly 200,000 tons), 7,000 wagons, 61 shunting locomotives and 100 broad gauge tractors[18] spurring the growth of the Railway Operating Division. The Railway Operating Division had begun in 1915 with seven engines loaned by the SE&C Railway and orders for 2500 trucks from Canada,

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17. DGT Memorandum, 26 November 1916, Sir W G Granet Papers, MSS.191/3/3/102-125, MRCUW

18. DGT Memorandum, 26 November 1916, Sir W G Granet Papers, MSS.191/3/3/102-125, MRCUW

which were very slow in arriving.[19] As an aside, it should be noted that by the end of 1915 the Railway Operating Division had 675 personnel operating 59 locomotives, and that this increased with the decision to take over the running of trains in their rear areas. Furthermore, at the end of the war, the Railway Operating Division employed 18,500 personnel on 1486 locomotives in the BEF's area.[20] Following the heavy orders he placed, Geddes went on to restate the warning of the late Director of Railways (Twiss) who had written on the 1st of November:

> I submit that priority should be given to the manufacture of railway material and plant -- priority "absolute", even above shell and "tanks", as without the necessary plant and material neither the shell nor the "tanks" can reach their required objective.[21]

Having begun the process of placing control over the BEF's railways squarely in British hands and ensuring that these railways would be adequately staffed and equipped, Geddes then turned to other transportation issues.

Geddes had turned first to broad gauge railways because they proved to be difficult to damage seriously and moved by far the majority of material. While it was relatively easy to destroy signalling, telegraph and electrical materiel on the railway, much of this was not essential for the operation of the railway. The destruction of such paraphernalia would slow down trains, but they could still be run, albeit with reduced efficiency and increased difficulties throughout the BEF's lines of communication. At its minimum, 'a railway consists of a specially constructed road-bed along which rails

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19. WO 107/69, *Report Upon the Work of the Quartermaster-General's Branch of the Staff and Directorates Controlled. British Armies in France and Flanders, 1914-1918*, 17

20. Ibid., 16

21. DGT Memorandum, 26 November 1916, Sir W G Granet Papers, MSS.191/3/3/102-125, MRCUW

are laid.'[22] This road-bed, called the 'permanent way' is 'almost impossible to effectually destroy'[23] - a very good thing, since the broad gauge railways represent the single most important means of moving large quantities of goods forward from base ports to railheads. In fact, much of the apparent lack of vulnerability of broad track railways came about because railheads remained generally outside of artillery range.

In contrast to the broad track railways, a road appeared much easier to damage or destroy. Given the proximity of roads to the front lines, they must have been more vulnerable to enemy action. At the same time, roads need less infrastructure to function and trucks are far better able to bypass damaged sections of road than trains are able to avoid damaged track. In spite of this general flexibility and, thus, resistance to damage, motorized transport proved, in 1916, to be an auxiliary to the railway. Though motorised transport distributed goods from railheads to the front, it could not replace the railway because some one hundred and fifty trucks would have been required to replace one train.[24] The use of motorized transport for most supply forward of railheads and the neglect of light railways, meant that in areas near to fighting, the supply system might break down - roads were relatively easy for the Germans to interdict if they were within artillery range. A mix of operational and tactical supply methods (road, pack train, and light rails) would have been superior, as it gave more targets that had to be interdicted by the Germans, and much better ability to choose routes that bypassed the worst of such interdiction.

In mid-August, the BEF's light railways finally began to see better use, and Geddes encouraged even greater improvement, pushing to get them fully operational. GHQ had informed Armies on 4 August that the, 'C-in-C desires that light railways be

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22. R Bonham-Smith, 'Railway Transport Arrangements in France,' *JRUSI*, Volume LXI (441), February to May 1916, 47.

23. Ibid., 48.

24. Ibid.

extensively used along the whole British Front for conveyance of ammunition, RE Stores, & Supplies with a view to eliminating, as far as possible, the use of road transport.'[25] Under the new system, light railways ultimately moved over 200,000 tons per week during parts of 1918, but this was almost exclusively in front of the railheads as light railways were primarily an Army tool - broad gauge line was used wherever it was feasible, in preference to light railways.[26]

Geddes's early efforts at rationalising the transportation system meshed with the BEF's restructuring administrative offices so that they could coordinate a comprehensive transportation policy. At a conference on 3 November, the BEF finally settled the reorganisation of the its lines of communication and transport problems, and decided to keep the DGT subordinate to the needs of the QMG, AG and CGS all at once rather than to one alone - this latter decision was a mistake, but one which lay dormant until 1918. In effect, this placed Geddes under the QMG, since the QMG had the greatest need for his services.[27] The DGT was:

> responsible for transmitting from the bases to the armies in the field the whole of the requirements of the BEF, the various supply services merely loading trucks ready for despatch.[28]

This boiled down, with rail traffic, to the collection and coordination of demands with the despatch of trains. In some cases, the DGT was also required to give professional

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25. WO 95/31, *QMG Branch, War Diary, August 1916*, Light Railways, To Armies, 4 August 1916

26. W J K Davies, *Light Railways of the First World War: A History of Tactical Rail Communications on the British Battlefronts, 1914-18* (Newton Abbot, David & Charles: 1967) provides a study of the evolution of light railways in the BEF. This work shows, as the title suggests, that light railways were under Army and Corps control, rather than the direct control of GHQ.

27. WO 106/396, *Conference on the Reorganization of the Lines of Communication in France, Held at the War Office, 3rd November, 1916*

28. WO 107/69, *Report Upon the Work of the Quartermaster-General's Branch of the Staff and Directorates Controlled. British Armies in France and Flanders, 1914-1918*, 14

advice on the selection of new railhead sites.[29]

On the whole, the new policy was vastly superior to the ad hocism of the past because planning became more centralised. Rather than roads, docks, railways and inland waterways all drawing up forecasts separately, the DGT coordinated their estimates of capability and planned for their use based on forecasts from the War Office of what he should be ready to move. However, the use of the DGT as a form of replacement for the IGC because of his position under the control of all three Staff branches was less than ideal. The most significant wartime change in the BEF's organisational infrastructure, one that completely changed the way the BEF used transportation by centralising its control in one office, finally began on 1 December 1916, when the CGS notified Armies that a DGT had been appointed on 23 November, 'to control and co-ordinate the working of the Transportation Services in the British Zone.'[30] The DGT controlled the Directorates of Railways and Inland Water Transport, as well as the new Directorates of Transportation, Light Railways and Roads, and Docks.

Because of the appointment of a DGT, the appointment of an IGC lapsed, and his duties devolved on the QMG, the DGT and a General Officer Commanding Lines of Communication Area (GOC, L of C Area) which was about to be created. General Clayton, as a result, went home rather than staying in France. Colonel C L Spencer, who worked for the Director of Works, provided an interesting case of reverse-G3 snobbery when, in his memoirs, he wrote that Clayton had been removed as IGC on a pretence because the general staff at GHQ was out-ranked by him and were jealous that an administrative officer who did not form a part of the General Staff should have a

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29. Ibid., 15

30. WO 95/32, *Appendix to QMG Branch, War Diary, December 1916*, Major-General R. Butler (for CGS) to Armies, 1 December 1916: unless otherwise noted, this document is the source for the remainder of the paragraph

higher rank and more importance than they.[31] Clearly, even on the lines of communication, some isolation existed, because Clayton obviously could not continue in France in the reduced post of GOC, L of C Area which *had to* in part replace the IGC's position. The IGC's abolition removed one of the primary potential difficulties that had hung over the BEF's administration since 1914. This effectively completed the rationalisation of the transportation structure at GHQ and allowed for central control of the means of delivery to be combined with forecasting of the needs of the BEF.

While the BEF streamlined its administrative structure, and even before it officially went into place, Geddes began estimating transportation needs and creating a system of central planning that assured adequate supplies to the front. In October, Geddes had forecast that the BEF would require some 270,000 dead-weight tons per week in the coming winter and spring, rising to 290,000 in the summer, as accumulated stocks were moved forward. After an allowance for goods obtainable in France - timber and roadstone in the main - he estimated that the British Base Ports would have to handle approximately 190,000 tons of materiel per week, plus personnel and animals. Geddes believed that the ports could handle this load, as long as some foresight was given to the siting of regulating stations. Finally, he also felt that the Inland Water Transport might be capable of moving up to 110,000 tons per week of the requirements.[32]

The sum of Geddes's efforts to restructure the BEF's transportation system might be understood as an application of business techniques to warfare wherein the person making the change had the necessary political and military support to implement

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31. Colonel C L Spencer, *Some Private Recollections of a Base Wallah, 1914-1919*, 72-3, Stuart Papers 7, LHCMA. Although Spencer's accusation might have had merit, Robertson to Cowans, 16 January 1915, Robertson Papers I/7/67, LHCMA had actually asked that Clayton be promoted, even though he would have been senior to Robertson.

32. Memorandum on Transport Facilities in the Various Theatres of War, 28 October 1916, Sir W G Granet Papers, MSS.191/3/3/69-99 and 127-154, MRCUW: all figures in the preceding paragraph are taken from this source.

those changes. Geddes had the backing of both Lloyd George and Haig, so he could demand and get most of what he felt the BEF required. An example of this is the immediate order from Geddes for large quantities of rolling stock and materiel - 350 locomotives, 20,000 wagons, 32,000 sleepers and 12,000 railwaymen.[33] This order would have been difficult to achieve without Geddes's reputation and Lloyd George's support. In addition, Geddes convinced Haig that the BEF had to help the French with their railways by getting 300 miles of track into France, though at first Geddes helped by simply providing longer range forecasts of need - the result of his use of statistics.[34]

Geddes's appointment and application of business to war really illustrates a growing awareness of the importance of using skilled civilians to assure effective administration and transportation. This policy had begun with the Director of Supplies in 1914, continued in part with the Non-Combatant Labour Corps and the use of British railwaymen in France, but it culminated with Geddes's appointment. During the late winter, a pair of entries in the QMG's war diary demonstrate the growing awareness of civilian abilities and at the same time, the desire to ensure that his staff had seen combat. In considering the promotions of three officers the QMG indicated their value in a business sense. One he called a 'very sound business man' and another the QMG noted to be 'of considerable business capacity and experience.' In the second entry, the QMG noted that neither the AG nor the QMG would consider officers for employment on their staffs until such officers had gained some front-line experience. The AG had ruled 'that he is not prepared to consider officers from Home for appointments on the "A" Staff until they have some practical experience of war in the front line.' The QMG quickly followed suit, but the DGT did not because, as with the IGC and Directors, he did not form a part of the 'General Staff' in France. While it was a good idea for Q and A staffs to have had experience, and thus sympathy for the

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33. WO 256/14, *Haig, Diary*, 1 December 1916

34. Ibid., 7 December 1916

troops in the line, it was not relevant for the officers working on the line of communications proper because they had no input into planning, while Q and A officers had some. Again, we see two interesting ideas cropping up. The first that business experience was seen as a positive thing in Q Branch, and the second that neither administrative staff branch that had some tangible influence on planning wanted officers until experience in the war had been gained.[35] Civilian expertise proved a great benefit to the BEF at a number of levels, administrators obviously appreciated their skills, and the example set by Geddes at the highest levels could only have helped, but the use of civilian expertise was more easily accomplished on the lines of communication - where it did the most good.

Geddes's experience as a civilian not only increased his influence because of his success in industry but it meant he brought with him fundamentally different ideas about the management of goods and money. Instead of pinching pennies, as he noted military men did, Geddes sought to maximise efficiency and so lower costs by offering better value for money. This increased efficiency meant making sure imports were handled quickly and sent to ports with the appropriate capacity. This would result in more efficient delivery of material to the troops. By late November, when he became DGT, Geddes revised his import figures up to 300,000 tons per week.[36] With this in mind, he calculated the handling capacity of the ports, allowed a margin of error for port closure, and found that only Boulogne could safely meet the BEF's needs as calculated by the outgoing Clayton. Once equipment on order arrived, Dieppe would have the capacity, and Calais, Rouen, Le Treport and St Valery would be close. However, this applied only to the unloading of ships and not to the railway's capacity to move goods forward. With this in mind, only Dieppe possessed the capacity

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35. WO 95/42, *AQMG (Personal Services), War Diary*, 14 January and 22 February 1916

36. DGT Memorandum, 26 November 1916, Sir W G Granet Papers, MSS.191/3/3/102-125, MRCUW

Geddes felt that all the ports needed. Geddes called for more dock equipment for the French ports; more rolling stock and greater rail capacity as well.[37] While these demands did not essentially reduce costs, just the opposite in fact, they were the first wave of efforts to increase a port's efficiency through improved infrastructure and communication. So, while short term costs increased substantially, the long term benefit was better efficiency and, thus, lower long term cost.

Geddes also required communication changes to enable better efficiency at the ports. Geddes wrote that, with the exception of Boulogne, the telegraphic communications between British and French ports remained:

> 1. Incomplete as to details [of cargo].
> 2. Do not state time of departure of vessel.
> 3. Are not sent promptly, and sometimes arrive after the ship has been berthed.[38]

Better communication was definitely required - the third case was an intolerable one. The probable reason for Boulogne being the exception was that Sir Francis Dent, the South East & Chatham Railway's manager there while that company briefly ran the port for the BEF, had insisted in 1915 on the provision of telegraphic communication with Britain to improve efficiency in line with civilian rather than military needs. Better efficiency made for better cost effectiveness and value for the government's (and tax payer's) money.

Better communication, however, could not solve the problem of maintaining a port's efficiency when it lacked infrastructure. As the BEF had discovered, the amount of tonnage that could be unloaded from shipping did not really reflect a port's actual capacity. To the layman, a port's capacity appears to be the tonnage that can be unloaded from ships in a given time - tons per hour, day or week per berth. In fact, this represents only a port's paper capacity and a port's actual capacity needs to be

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37. Ibid.

38. Ibid.

measured in the amount of material that can be cleared completely through it in a given time. In other words, the amount of rail capacity of a port also determines its over-all capacity. In this, the BEF discovered:

> that a ship can always discharge on the quay at least twice, and probably five times more quickly than the quay itself can be cleared; and similarly the quay can be cleared three times, and even five times more quickly than the [transit] sheds can be cleared.[39]

That capacity was constrained by poor management and the lack of railway access which made it impossible to fully utilise all the BEF's ports. British ports in France tended to suffer from having too many berths and not enough railways, so the railways actually represented the capacity of the port.[40] This is where Geddes came in. He got professional men with expertise in running ports and put them in France to replace Army men of no practical experience; he centralised control of the ports by mixing them with transportation; he created the Docks Directorate; and began the process of making each port an 'area of movement' where stocks did not accumulate but moved rapidly through each from ship to rail.[41] This helped tremendously, and once Geddes had got the War Office to agree to send manifests ahead of ships it meant that the Docks Director knew, before a ship had docked, both what it carried and where, precisely, its contents had to go. Accurate manifests meant that the Docks Director could make better use of the improved facilities that Geddes had arranged. As a result, material moved more efficiently through the ports, and their capacity increased. This all saved time, and therefore money.

In addition to Geddes's reforms, designed to increase efficiency and save on costs over the long term, the BEF showed great concern for finding ways to lessen its

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39. Lieutenant-Commander H B Tuffill, commenting on M G Taylor, 'Land Transportation in the Late War' lecture 717.

40. M G Taylor, 'Land Transportation in the Late War,' 719.

41. Ibid., 715, 712, 711.

cost to the taxpayer. As Geddes had pointed out to Granet, the military often tended to be conservative in demanding its supplies. This led the BEF to take great pains to control its expenditure and exercise economy in France. Mobile workshops, salvage depots, and ordnance salvage centres were instituted throughout British areas to refurbish used materiel and endeavour to make it usable again. Starting at the front, formation Ordnance Officers kept records of materiel issued and looked for excessive demands from units. Monthly statements were then forwarded to Army Deputy Directors of Ordnance Services who looked for cases of excessive divisional consumption. From there, quarterly reports were forwarded to the DOS, which allowed him to keep tabs on Army demands.[42] The above was designed to ferret out cases of excessive consumption. Demands in excess of authorised scales required the DOS's and occasionally the QMG's approval. Clothing returned from the front was checked and overhauled. If it could be reissued, it was forwarded to the Ordnance Salvage Depot, Paris, for overhaul, repair and reissue. Clothing damaged beyond repair was bagged and shipped to England for sale as rags. In October, for example, 4,402 tons of woollen rags were returned home and sold for £333,251 and 262 tons of cotton rags made £5,315.[43] The estimated savings from the Paris depots for the first six months of 1917 came to £961,716 - while this is minuscule in comparison to the total cost of keeping the BEF in France, it represented nearly one million pounds that British taxpayers did not have to pay.[44] All divisional headquarters had repair shops which could handle minor repairs to boots, clothing and munitions. Old boots went to

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42. WO 95/59, *Director of Ordnance Services, War Diary*, 8 October 1917, *Some Examples of How Expenditure of Stores is Watched and Economy Exercised*: unless otherwise noted, all references to economy and salvage are taken from this source.

43. WO 95/59, *Director of Ordnance Services, War Diary*, 22 October 1917

44. Ibid., 11 November 1917

Calais where some 25,000 pairs per week were overhauled and repaired - a savings of fifteen shillings per pair. While these figures are small in comparison to the total costs of the war effort, any monetary savings was a positive step towards lowering costs. Further, salvaged material that could be re-issued did not have to be shipped to France, thus saving in shipping tonnage requirements.

Ordnance Mobile Workshops provided field repair for guns, carriages and equipment. All damaged and unserviceable stores were returned to the railheads for salvage. For example, ammunition cases and empties had value as scrap iron or brass. On the lines of communication, the Deputy Directors of Ordnance Service ensured that stocks did not build up to excess. All Ordnance Depots had repair facilities and salvage workshops, while Calais and Havre had especially large ones. The salvage establishments at the Depots were designed to renovate anything and everything possible. Paris was the location of larger establishments and laundries. Such plans as recycling and refurbishing old discards do not, on the surface, appear very important. However, they served multiple purposes, which, when taken as a whole, made them very important. All of the efforts in the rear areas helped to lower the cost of maintaining the BEF in France. This was very important, as the cost of the war was running excessively high and demands for raw materials were extreme. Furthermore, renovated equipment that could be re-issued did not have to be shipped to France, which saved on shipping. The increasing intensity of the submarine offensive against Britain had yet to be fully felt, but the BEF had instituted a program (one of many) whereby they tried their very best to reduce the level of shipping commitment required to maintain them in the field. As costs escalated and the BEF had to begin economising in earnest, these programs proved valuable.

By December, the BEF's Transportation Services were functioning under the control of one office - that of the Director-General of Transportation. The increased efficiency of this new system meant that the difficulties which exacerbated the battlefield problems in the Somme virtually disappeared. It also finished the process of

administrative institutionalisation at GHQ. In addition, the BEF had acted incisively in getting a civilian to sort out their problems. Ironically, such change could only occur because of the flexibility of the *Field Service Regulations* that had set up the problem in the first place. Haig was able to modify these to his advantage and get people from England who could help solve problems without destroying his entire administrative system. This would prove vital as the war progressed for, until the administrative services had been sorted out, the BEF could not perform up to potential on the battlefield. The operational and tactical innovation that would occur in 1917, and the strategic flexibility that Haig would have in 1918 would not have occurred if Geddes had not changed the BEF's transportation system. The Battle of the Somme may have been, as Paddy Griffith suggests, a vitally important one from the perspective of tactics, but until the administration had changed, all the lessons that could be drawn from the Somme would have been useless. As it was, the changes wrought by Geddes underpinned the future success of the BEF for innovators could now proceed without restraint.

Chapter 6

Geddes's Legacy:

Transportation in France and its Impact on Tactical, Operational and Strategic Decision-Making in 1917

The changes to the BEF's transportation system at the end of 1916 put the administration in the position where they could begin to have confidence in their ability to supply all reasonable (and even unreasonable) needs. The accidental sinking of the *SS Araby* in the mouth of the Bassin Loubet at Boulogne in late December 1916 provided an unfortunate ending to 1916 and a most inauspicious start to the new year. The wreck held up the operation of the port for nearly a month, until its ultimate clearance on 18 January, and seriously handicapped the BEF's administration in the meantime. Following the *Araby*'s removal and re-opening of Boulogne, successive railway crises on the French Railway Nord threatened the BEF's ability to carry out their planned offensive in the spring. The increasing effectiveness of the transportation system under the new Director-General of Transportation (Geddes), however, began to ameliorate this problem by spring and had smoothed out the whole supply situation by summer. This allowed the BEF to concentrate on the build-up for what would become four large offensives in 1917 - Arras, Messines, Third Ypres, and Cambrai. Paradoxically, the very success of the supply and particularly transportation services began to cause other problems - guns worn out from firing too much ammunition, for example. In addition, the consumption of large quantities of petrol, oil, lubricants, forage and other key supplies left the War Office without the ability to provide enough of these supplies for the BEF's needs. Although the year got off to a rocky start with the closure of the port of Boulogne, 1917 proved largely anticlimactic from an administrative perspective. By the middle of the year, supply had been assured to the point that the BEF's innovators (Maxse, Currie, Monash, Birch, Uniacke and others)

could try new and artillery-intensive methods without fear of a lack of supplies. All four major offensives launched by the BEF in 1917 show signs of advancing operational and tactical methodology. By the end of the year, the BEF as a whole had improved dramatically in its ability to undertake offensive operations, and a number of formations, notably XVIII Corps and the Canadian Corps proved highly successful. Indeed, the latter had, by mid-summer, settled on the operational methodology that would carry it through the duration of the war - the artillery-intensive set-piece attack.[1] Further, the very fact that the BEF launched four offensives in 1917 shows that Haig's strategic options had multiplied, largely because he had confidence in his administrators to supply those offensives. Had the prior year's changes not occurred, the BEF could not have done all it did in 1917 - effectively shouldering a heavier share of the allied burden as it had been unable to do before.

Haig, for one, understood the significance of the *Araby* very well because he knew the importance that Boulogne held for the BEF. Having been told that Boulogne might be blocked for a month, he felt it might have very serious consequences for the upcoming spring offensive at Arras.[2] The difficulty created by the grounding of the *Araby* forced a temporary reversion to ad hocism that allowed the administration to cope with the closure of one of the BEF's main base ports. The *Araby* had grounded on 23 December 1916 and trapped fourteen ships in the Bassin Loubet - one of three basins in the port; and the only one the BEF had permission to use.[3] Table 6:1, the

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1. Ian M Brown, 'Not Glamorous, But Effective: The Canadian Corps and the Set-piece Attack, 1917-1918,' *The Journal of Military History* 58 (July 1994): 412-44, passim.

2. WO 256/14, *Haig, Diary*, 26 December 1916

3. This provided a double blow for not only did it hold up operations at one of the BEF's main ports, but the trapped ships remained unusable until the port's clearance. According to WO 95/33, *QMG Branch, War Diary*, 18 January 1917, the *Araby* was partially cleared on 11 January such that smaller ships could use the basin, and fully cleared on 18 January.

docks programme for March 1917, illustrates the importance of Boulogne to the BEF:[4]

Table 6:1
Docks Programme, March 1917

	Dunkirk	Calais	Boulogne	Dieppe	Rouen	Havre	Others	Total
Supplies	2,250	11,530	17,880	4,400	15,200	17,770	2,300	71,330
Ammunition			14,000	7,000	21,000		14,000	56,000
RE Stores	20,750	3,500			5,250	5,950	5,250	40,700
Ordnance Stores		3,750	320		250	3,750		8,070
Mail		430	700			1,350		2,480
Other	11,250	750	1,075	200	3,235	500	600	17,610
	34,250	19,960	33,875	11,600	44,935	29,320	22,150	196,190

While not the largest of the BEF's base ports, Boulogne was one of its most efficient and was projected to handle just over seventeen percent of the BEF's traffic through the Channel ports, and twenty-five percent of the total ammunition (forty percent of the northern line of communication's ammunition). In fact, the ammunition figures were closer to thirty percent and sixty-five percent, because the 14,000 'Other' port tons of ammunition was a cross-channel barge shipment to St Pierre Brouck instituted after Boulogne's re-opening. Boulogne's closure placed extra strain on the other ports and hindered the arrival of ammunition quite severely. This might have postponed the upcoming offensive, except that the administration managed to work around the problem and, with French help, mitigated the damage effectively.

On 4 January, the French Directeur de l'Arriere arranged an extra British berth at Rouen and two at Dieppe to compensate for the loss of Boulogne. However, the grounded ship had forced the diversion of ammunition, coal, and coke to Dunkirk; forage, Expeditionary Force Canteen stores, Royal Flying Corps stores, and medical

4. This table is drawn from WO 95/32, *QMG Branch, War Diary, October to December 1916* and reflects a tonnage forecast for an upcoming month - probably March or April of the following year.

stores to Calais; and supplies and case goods to Rouen; so the new berths could not fully replace those lost at Boulogne. In addition, the *Araby* stopped the shipment of firewood, forced Calais to deal with leave ships, while sick and wounded had to be moved to southern ports for evacuation, and extra labour had to be moved to Dunkirk to deal with the extra ammunition.[5] Even allowing for an over-all traffic reduction because of reduced imports, Boulogne's re-routed deliveries must have caused serious problems.

The three extra berths arranged by the Directeur de l'Arriere would have helped British administrators, but the ports required to handle extra tonnage often did not normally receive the supplies they now had to. For example, Dunkirk did not normally handle coal, coke, or ammunition, and the demand on Calais for the landing of extra stores and forage more than doubled its normal receipts. Of all the ports, Rouen appears to have had the greatest capacity for handling the extra traffic, due primarily to its greater size. Complicating matters still further, there must have been follow-on impacts on the Nord Railway system, since the depots filled through Boulogne used a number of rail lines often laid for that purpose. Moving supplies to those depots from other ports (especially Rouen, the furthest away) must have caused additional delays and problems because insufficient quantities of rolling stock now had to be used for longer journeys, thus reducing the number of round trips they could be used for. In spite of all this difficulty - caused by a single accident - Haig's administration coped and managed to mitigate the dislocation to services so that the BEF did not have to postpone the Arras offensive.

Although Geddes had been working on improving the transportation system since October of the previous year, his changes took time to implement and for the BEF to benefit from them. In the meantime, the railway situation had reached a crisis state by 24 January 1917 despite Boulogne's reopening six days earlier. Ironically, this

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5. WO 95/33, *QMG Branch, War Diary, 4 and 18 January 1917*

crisis came about in part because the success of Geddes's reorganization the prior autumn had allowed for more supplies to be shipped to France. Geddes's newly rationalised transportation services had begun to trans-ship these supplies through the ports to the depots and the troops far more effectively than previously stressing the railway system greatly as it had not fully recovered from its problems of the prior year. The BEF now suffered most from an acute shortage of rolling stock, rather than inefficiency on the rail lines themselves, and this shortage was a problem that Geddes could not solve in a short time.[6] The Director of Ordnance Services, for example, wrote as early as 1 January that 'unless the additional rolling stock can be guaranteed, there will be a grave danger of interruption in the steady flow of stores for the troops.'[7] In spite of Geddes's efforts, the problem, serious enough without the *Araby* complications, remained severe and in early February, the Director of Ordnance Services noted that Havre alone had 2,000 tons of stores awaiting despatch to the troops due to rolling stock shortages. This had also left vehicle deliveries more than three weeks behind schedule and greatly delayed tank stores.[8] Geddes kept Haig fully informed of the crisis, and Haig greatly helped matters by his concern for, and understanding of, the problems his administrators faced.[9] The day that Haig found out how bad the problem had become Geddes wrote a despairing letter to Sir W G Granet, formerly Midland Railway's General Manager and Geddes's pro-tem replacement as Director-General of Military Railways (sometimes referred to as Movement and Railways) at the War Office, to express his feelings. Geddes wrote:

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6. WO 95/59, *Director of Ordnance Services, War Diary, 1 January 1917*: contains an account of the difficulties faced in just that one Directorate due to the rolling stock shortage

7. Ibid., 1 January 1917

8. Ibid., 10 February 1917

9. WO 256/15, *Haig, Diary*, 24 January 1917: Haig's concern is very clear in this entry

> We are in the depths of despair here [GHQ] because, although we thought we had got over the wagon difficulty, and the dock difficulty, and the shipping difficulty, and the material difficulty, we now learn from the French that even if they had the wagons, they can see no possibility of being able to move them about the Nord system, and that their circulation is so crippled by large construction works that they have taken on until the additional lines increase their capacity that they can see no hope of dealing with a greater import than the 150,000 tons a week we are taking today. I had a whole day yesterday with Ragueneau, and extracted this confession from him, which attitude he hadn't thought of adopting so long as he hoped we would be done by the shipping difficulty!! Now that we have got over that, he thinks candour the best course to adopt.[10]

The weather made the problem worse as the French authorities had to temporarily close the railways to all non-essential military traffic because of a severe cold snap. Food, ammunition and railway materiel continued to be moved, but 'surplus' rolling stock had to be diverted to supply coal to Paris, as the canals there had frozen.[11] This delayed the arrival of a new division and left Haig in a difficult position. He and his staff believed that the BEF needed 200,000 tons of supplies per week to adequately stockpile for the planned spring offensive, and, having discussed the problem with Geddes, Kiggell (his CGS), and Butler (Deputy-CGS), Haig felt unable to carry out the offensive 'as early as we wish.'[12]

Even with these set-backs, Geddes's system of transport enabled Haig to continue to rapidly stockpile the ammunition for the upcoming offensive.[13] By early

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10. Geddes to Granet, 24 January 1917, Sir W G Granet Papers, MSS.191/3/4/47, MRCUW

11. WO 95/33, *QMG Branch, War Diary, 26 January 1917*; WO 95/26, *AG Branch, War Diary, 26 January 1917*; WO 256/15, *Haig, Diary*, 26 January 1917

12. WO 256/15, *Haig, Diary*, 28 January 1917

13. As in prior chapters, ammunition stocks provide a useful gauge of the BEF's supply state. While only accounting for ten to perhaps twenty percent of the total supplies moved, ammunition used every facet of the transportation system - train, truck, light railway, horse-drawn, and occasionally inland waterways. As a result, and because of the clear and extensive nature of ammunition records compared with the other high-volume items (forage, food and clothing), ammunition use and movement provides a very useful bench-mark of the system as a whole.

February, in spite of the rolling stock difficulties, Haig expressed satisfaction that ammunition reserves, at least, had grown satisfactorily. Noting that nearly ten million 18-pounder and two million 4.5" howitzer shells had been built up (roughly double what he had available for the Somme), he wrote that only 60-pounder and 6" howitzer shells lagged behind (447,800 of 725,000 and 31,128 of 60,000 respectively).[14] By the end of the month, he felt able to report the railway situation as 'slightly better' and, following a tour of the newly doubled Arras railway, he noted that 'Geddes and his men certainly deserve very great credit. The British railway outlook is promising.'[15]

Haig's increased optimism masked two potentially serious problems. First, the 60-pounder and 6" howitzer formed the core of the heavy artillery batteries the BEF needed to break down German trench systems - their shortage lessened prospects of success.[16] Secondly, while Geddes had worked wonders on the transport system and while he had begun to get more control over the railways, the fact remained that most of the BEF's supplies continued to run over track maintained and operated by French Railway Authorities - the Commissions Regulatrice. Indeed, Haig recognized this later in the month, noting, 'our preparations depend on the state of the Chemin de Fer du Nord and the amount of material which it can bring forward.'[17] In other words, Haig remained reliant on the goodwill of the French to keep his build-up on schedule. A week later, after representing Haig at a conference in Calais and trying to sort the problem out, Robertson (the CIGS, his presence being a clear sign that the problem had

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14. WO 256/15, *Haig, Diary*, 7 February 1917

15. Ibid., 20 February 1917; 17 February 1917

16. See Prior and Wilson, *Command on the Western Front* op.cit., for an astute and convincing assessment of the importance of heavy artillery for the reduction of defensive trench systems. They illustrate clearly that total weight of shells per yard of defensive trench did not substitute for total weight of heavy shell per yard. In other words, increased use of field artillery could not make up the difference when a heavy shell shortage appeared.

17. WO 256/15, *Haig, Diary*, 22 February 1917

become serious) wrote to say the conference had 'made very little progress with respect to the railway question. ... Geddes must try and get on the best way he can.'[18] This Geddes clearly did, greatly benefitting from the fact that:

> [he] was truly independent [as DGT] as few men can be in their work. Efficient operation was the sole objective. Unlike any railway manager before or since, he could ignore costs, profits, and even labour unrest since the labourers were soldiers, P.O.W.'s [prisoners of war], or Chinese coolies. His superiors, Lloyd George and Haig, were more than willing to leave him alone to do his job as he saw fit.[19]

Geddes's success is reflected by the fact that as March got under way, Haig's emphasis on administrative matters waned, but not because he did not understand the difficulties. Rather, Haig had carried on the practice he exhibited the year before of involving himself heavily in the administrative side of things until he had satisfied himself that things would be ready, whereupon he focused his energies on operational matters and planning, trusting his administrators to see that their tasks ran smoothly. During March, the railway situation made far fewer appearances in Haig's diary, mainly because the problems had begun to sort themselves out. On 3 March, Haig had Geddes to lunch and noted:

> ... we discussed the railway situation afterwards. He gave me a letter giving the history of the whole transaction with the French, and showing clearly how they have failed to keep their agreements. We are now practically being "rationed" in the manner of trains by the French. Geddes questions the utility of his remaining on if this state of affairs is to last. At any rate, if I were to go, Geddes will resign at once. He is quite satisfied that we can get the railway situation in good working order by the autumn. We agree that it will be best for him to take the letter himself to London next week and personally to see Mr. Lloyd George, who originally sent him (Geddes) to France to enquire into the Transportation problem.[20]

Three things are of particular interest in this rather disjointed passage. The first is the clear resentment directed at the French for their perceived inability to meet British

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18. Ibid., 22 February 1917; Robertson to Haig, 28 February 1917
19. Buchanan, *The Governmental Career of Sir Eric Geddes*, 26.
20. WO 256/16, *Haig, Diary*, 3 March 1917

railway needs, inflated though they might have been - due to the insistence that all divisions in the field should be kitted out to the full pre-war establishment of horses, motorised transport and the like. The second is that Haig and Geddes had both begun to think well ahead, so, even though they suffered from a current shortage of rolling stock, the problems must have been forseeably manageable. Otherwise, Geddes clearly would not have offered a six month prognostication. Finally, Haig must already have been under considerable pressure from politicians at home. If Geddes had been honest with Haig, and meant to resign if Haig had been replaced, this must have helped Haig tremendously. As one of Lloyd George's primary 'trouble-shooters,' Geddes's opinions and voice carried a great deal of weight.[21]

Even though Geddes's system worked effectively at building up stockpiles before offensives, the administration remained crucial in providing support during advances. The German withdrawal to the Hindenburg Line in March complicated things just before the Arras Offensive got under way by forcing the extension of the lines of communication on very short notice. The destruction wreaked by the German Army in its former rear areas left a devastated zone between their old and new positions - roads, railways, and bridges had been systematically destroyed placing great demands on the Royal Engineers with the front-line formations.[22] Some commanders apparently could not cope. In a post-war letter, one former officer wrote the official historian:

> I am glad to see the emphasis [in the official history] on the failure of commanders to appreciate the importance of the "engineering" side, particularly in the matter of roads, when the withdrawal of the Germans in 1917 caused a change to open warfare for a time. ... The years of static conditions had led commanders to take good communications for

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21. Geddes had originally served with Lloyd George on the Munition Board and as Director-General of Military Railways (DGMR) at the War Office. He then, as has been shown, became both DGMR at the War Office *and* DGT in France, later moving to the Admiralty as First Lord when it had administrative and procurement problems.

22. J H Boraston (ed), *Sir Douglas Haig's Despatches* (London and Toronto: J M Dent and Sons Ltd., 1919), 76: Despatch of 31 May 1917. See also CAB 45/115, C Packe (late AQMG, III Corps) to Falls, 17 June 1936.

> granted. The "Q" services had functioned with machine like smoothness and my experience was that it was rare for divisional and corps commanders to give a thought to that side of staff work.[23]

To a degree, this can be viewed as having been the case. However, retirement offered the Germans the opportunity for a counter-attack had the BEF advanced recklessly behind them. Rawlinson, for one, appreciated the vulnerability of the advance from a supplies perspective and:

> determined therefore to keep in touch with the retreating enemy only with advance guards and cavalry, whose task it would be to cover the construction by his [Rawlinson's] forces of roads and railways. He would retain his existing front line as his main line of resistance and only send his principal body of troops forward when a new strong position had been provided for them.[24]

Clearly, Rawlinson understood the nature of the advance and the supply difficulties inherent in it. Haig also had some understanding of the task, later writing of the advance that it had taken place:

> over country in which all means of communication had been destroyed, against an enemy whose armies were still intact and capable of launching a vigorous offensive should a favourable opening present itself.[25]

Unfortunately, such a grasp of the problems faced by the BEF did not always penetrate the War Office. For example, during the advance, it became apparent that the BEF needed, on short notice, a number of additional Auxiliary Petrol Companies fitted out to carry water due to the poisoning of wells by the Germans. This the War Office refused, and it forced Haig and the QMG to come up with an alternate solution by cannibalising resources in France to form new water companies.[26]

Once established on the new forward lines, the troops needed the supply lines and infrastructure repaired before further advances could occur, and this had the side

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23. Cab 45/116F, G Frith to C Falls, 16 February 1939
24. Prior and Wilson, *Command on the Western Front*, 265-6.
25. Boraston, *Despatches*, 73: Despatch of 31 May 1917.
26. WO 95/33, *QMG Branch, War Diary*, 25 March 1917

effect of helping to finish Geddes's goal of getting railway control for the BEF. Even more troublesome than the difficulties with simply getting forward, the French found themselves incapable of repairing all of the lines necessary to supply the BEF in its new positions in front of the Hindenburg Line, and asked the British to repair some six hundred miles of line in French areas in addition to the lines they captured. This ran counter to some British belief that unless they had control over the railways, the BEF should not be required to repair them. Eventually, the French agreed to let the BEF 'repair and run such railways as we [the BEF] find necessary.'[27] This important concession allowed Geddes considerable latitude in designing the new infrastructure for use by the expanding Railway Transport Establishment. By the end of April, after the Arras Offensive had begun to prove inconclusive, Haig had become secure in the knowledge that the railway situation had improved, and that, in addition, the roads would not give concern as a result - road conditions were determined by rail traffic conditions.

The Arras offensive, part of the joint Anglo-French 'Nivelle Offensives,' represented the first opportunity that the BEF had to attack with their new transportation policy in place. It also represents a significant operational advance largely brought about by that transportation system because in this battle, the creeping barrage 'came of age' and because 'in gunner terms' it proved three to four times the size of the Somme.[28] Arras opened for the BEF with the Canadian Corps' successful capture of Vimy Ridge. Careful planning and the most meticulous attention to detail allowed Lieutenant-General Sir Julian Byng's Corps to take the Ridge with comparatively light

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27. WO 256/16, *Haig, Diary*, 16 March 1917; 20 March 1917

28. Griffith, *Battle Tactics*, p.85.

casualties.[29] This attack should be viewed as an important one for the BEF, for it represented a significant operational advance. The Canadian Corps used careful counter-battery work, a sophisticated artillery barrage, a foresighted machine-gun doctrine, and relatively sound small-unit tactics in the assault.[30] However, its significance can also be seen in that, despite lavish expenditure of ammunition and stores, the Canadian effort was not an isolated attack, but formed only a part of a much larger offensive, launched after an extended advance, on a broad front.[31] Geddes later claimed, quite rightly, that:

> the attack on Arras and Vimy Ridge, ... was the first battle where improved transportation played its part, and the C[ommander] in C[hief] congratulated me on the fact that, for the first time in a major attack the troop in the front line had been supplied with their rations and ammunition supplies on the evening of the attack, by light railways.[32]

While light railways came under Geddes's broad mandate, they remained essentially an Army tool.[33] Geddes finally helped propel the BEF towards more extensive use of

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29. For a brief account of the Vimy Ridge battle, see Jeffery Williams's biography of Byng *Byng of Vimy: General and Governor General* (Toronto and Buffalo: University of Toronto Press, 1983 paperback edition; first published London: Leo Cooper with Martin Secker and Warburg Ltd, 1983), 142-170 for Vimy Ridge.

30. For a discussion of the evolution of Canadian tactical doctrine during the Great War see William Rawling, *Surviving Trench Warfare: Technology and the Canadian Corps, 1914-1918* (Toronto 1992). For Canadian operational methodology see Brown, 'Not Glamorous, But Effective,' 421-44, passim.

31. WO 95/59, *Director of Ordnance Services, War Diary, 20 April 1917*: the first day of the offensive, on the British Front alone, saw the expenditure of some sixty-eight train loads, or 24,855 tons of ammunition, including 579,267x18-pounder, 182,319x4.5" Howitzer, 53,387x60-pounder, 93,511x6" Howitzer, and roughly 50,000 rounds of heavier calibre shells.

32. Cab 45/114, Geddes to Falls, 22 February 1936: regarding the publication of the first volume of the 1917 official history

33. As an army tool, the light railways can be thought of as providing operational and tactical logistic support since they operated in front of railheads. As such, Geddes did not exert a great deal of control over them. An examination of light railways and their evolution can be had in W J K Davies, *Light Railways of the First World War*, passim.

light railways - to Haig's satisfaction. Although the later experiences of Passchendaele ultimately changed the use of light railways to a degree, the light railways initially saw extensive use for tactical supply because they proved more economical than roads. While requiring stone to 'ballast' the track, the same stone used on roads, they used less of this than did the roads. By mid-1917, the BEF used light railways wherever possible as extensions of standard gauge and as far forward as possible.[34] This meant that the guns received far more efficient resupply of ammunition and it allowed for greater expenditure - exactly what the new operational system was heading towards.

In May, Geddes left the BEF, much to Haig's dismay, but he left Haig with a much improved transportation system. Haig wrote: '[Geddes] is required now to join the Board of Admiralty. The latter seems unable to provide itself with what is necessary.'[35] As a result, Geddes, Lloyd George's primary trouble-shooter, had been summoned to put things right. Haig did not wish to lose Geddes's expertise, and a measure of the regard with which Haig held Geddes is another diary passage, which reads:

> I have arranged that although Geddes will become a "Lord of the Admiralty", he will remain as a "Consultant on railway questions" attached to my Staff. ... I am very greatly indebted to him for all he has done.[36]

Another is that, despite his return to England, Geddes continued to merit mention in Haig's diary, and, for some time, Haig noted P A M Nash as 'Geddes's successor.' Geddes left Nash and Haig with a far better transportation system than the one he had

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34. M G Taylor, 'Land Transportation in the Late War,' a lecture presented at the Royal United Services Institute and published in the *JRUSI*, Volume LXVI, 1921, 706-7.

35. WO 256/18, *Haig, Diary*, 7 May 1917

36. Ibid., 7 May 1917: this passage would indicate that Haig supported Geddes's new position because he was legitimately concerned over the shipping situation rather than, as has been asserted, in an effort to divert attention away from himself. Cf Beaverbrook, *Men and Power, 1917-1918* (New York: Duell, Sloan and Pearce, 1956), 166.

replaced - Haig, for example, would later note that by the end of the year, the docks had doubled their average discharge rates, that there had been a ten-fold increase in the number of imported railway locomotives in France, and that railway traffic had increased by fifty percent during the year.[37] As such, Geddes's profound influence on the BEF continued to be felt.

Geddes's system passed another test when his railways provided nearly flawless support for the preparation for Messines - ensuring that more than sufficient supplies and ammunition reached the area in a timely manner. Final preparation for Messines, the next big British offensive after Arras, got under way on the 18th of May, and it rapidly became evident that railways would no longer handicap British efforts. Indeed, railway troubles had receded to the point that Nash did not feature in Haig's diary until nearly the end of that offensive - an unprecedented occurrence. At that time, Haig wrote:

> General Nash (DGT) came to see me to-day and reported on the Transportation Service. Everything has done extremely well. The number of trains to railhead has increased to an excessive number; 30 more per diem than we had calculated for, and had told the French we would want! The number is now 220 per diem, in addition to L[ine] of C[ommunication] trains. To avoid risk of breakdown, he is reducing the number to what can reasonably be run.[38]

For the first time, Haig did not have to worry about a lack of railway capacity. Rather, the concern had become that the War Office proved too diligent in sending materiel - to the point that excessive amounts of some supplies had begun to arrive, while shortages in a few new classes of supplies, particularly fuel oil and petrol, began to be felt.

Messines proved far more successful than had Arras, indeed, it has been held up as a 'model' of Great War operations, but it also showed that Geddes's transportation work and reorganisation had paid off. Thorough preparation of the Messines area had begun in 1916 and included a comprehensive system of water

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37. Boraston, *Despatches*, 142-3: Despatch of 25 December 1917.

38. WO 256/21, *Haig, Diary*, 7 August 1917

supply and repairs to the rail network. This helped tremendously by leaving Second Army in possession of a very good transportation system - three main rail lines close to the northern ports (Calais, Boulogne and Dunkirk) allowing very heavy traffic.[39]

Final stages of preparation could not begin until the Battle of Arras had been closed down.[40] Until then, Second Army had not been able to concentrate all its resources on the preparation for Messines, particularly the artillery build-up. One special problem of note, water supply, had resulted in pipe-laying that supplied between 450,000 and 600,000 gallons daily.[41] A tremendous effort had also gone into the preparation of numerous mines, of which nineteen containing an aggregate of one million pounds of amatol would be detonated on the morning of the attack.[42] Once Arras had finished, 2,266 guns had been sited and 144,000 tons of ammunition dumped near them to support Second Army.[43] The ammunition had been moved in two impressive stages. The second occurred between 19 and 30 May and used 165 trains to move 65,000 tons of ammunition. As a result, the 18-pounders had 1,000 rounds per gun in the gun pits; 4.5" Howitzers, 60-pounders and 6" Howitzers had

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39. *BOH(1917, 2)*, 39.

40. Ibid., 40.

41. Boraston, *Despatches*, 102: Despatch of 25 December 1917.

42. Philip Warner, *Passchendaele: the Story Behind the Tragic Victory of 1917* (London: Sidgewick & Jackson, 1987), 34.

43. Warner, *Passchendaele*, 33-4. *BOH(1917, 2)*, 41-2 gives the artillery breakdown as 756 heavy artillery pieces and 1512 field artillery pieces. Using his breakdown, and rate of fire figures from RG9 III C1, Volume 3854, Folder 71, File 1, *Artillery Order No.101*, 4 November 1917, National Archives of Canada, we get a 'throw weight' of fifty-three tons per minute during the advance - roughly one train load every eight minutes, but also a rate that could have been maintained for days because of the pre-offensive build-up.

750; and the rest of the heavy artillery had 500 rounds per gun ready to fire.[44]

Divisional commanders such as Sir John Monash (GOC, 3 Australian Division and later Australian Corps Commander) felt eminently comfortable in this supply state - the beginning of a stage in the BEF's war effort where a superabundance of ammunition became the norm. Monash later wrote of Messines that, 'I fired from first to last over £1,000,000 worth of ammunition, large and small, in the three days' fighting.'[45]

Second Army's attack used three Corps (one fewer than Arras) and followed on the heels of a twelve day bombardment that used 3.5 million shells (only 67 percent of the estimate). With the aid of the nineteen mines and a heavy barrage, the attack proved successful.[46]

It has been argued that the next big British attack (Third Ypres, or Passchendaele) should have followed immediately on the heels of Messines' success.[47] This, no doubt, would have helped Third Ypres, but, could it have been done? It seems highly improbable because of the demands that had been necessary for Messines. The preparation of the Messines battlefield had begun in the autumn of 1916, and the final stage of preparation had taken fully three weeks of intensive work. The battle itself had moved the line forward a considerable distance, saturated the area captured with millions of British and German shells, and left nineteen enormous craters on Messines Ridge itself. Across this newly shattered landscape railheads had to be advanced, roads and light railways laid, and extensions built to water lines before the

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44. *BOH(1917, 2)*, 42. These numbers, it should be remembered, are only for the gun pits and do not reflect additional ammunition held in corps and army areas or on the lines of communication.

45. F M Cutlack (ed), *War Letters of General Monash* (Sydney: Angus & Robertson Ltd, 1935), 7 June 1917, 179.

46. *BOH(1917, 2)*, 49.

47. Warner, *Passchendaele*, 167.

newly won terrain could be considered secure. This could not be done at will. The pause which preceded the opening of Third Ypres proved relatively short, but it had been mandated by the need to both consolidate Messines' success and prepare a new battlefield, admittedly an adjacent one. Until the troops on Messines Ridge were secure and in possession of an intact logistics network it would have been foolhardy to launch Third Ypres immediately adjacent and leave both battlefields vulnerable to counter-attack. Whether or not an attack immediately on the heels of Messines would have worked better than Third Ypres ultimately did is, therefore, of little consequence - it simply could not have been successfully launched. Indeed, the irony of the situation is that those troops on Messines Ridge proper might very well have been in a better position, logistically, than those in front of Ypres, because their rear areas, if not the front lines, were densely packed with the railheads and roads that got them on the Ridge in the first place.

The success of Messines demonstrated the effectiveness of the BEF's new supply system and the improvement in the BEF's operational system, however, the new supply system still had some problems because of the size of the army and the cost of the war. At roughly this time the large numbers of horses in France required for riding and to move artillery and supplies strained supply lines because horses consume tremendous quantities of forage and water. This meant not only vast tonnages of forage arriving in the base ports, but great bulk as well. By mid-summer, G S Clive (liaison at GQG) noted, 'there is so much feed coming into France that we cannot store it; yet no great stock is being accumulated.'[48] The War Office had suggested a partial solution to this in May when they posed the idea that a cavalry division be dismounted to save on horses, but GHQ had replied that it could not be done due to the line being held by the Cavalry Corps and because such a decision might have disrupted the

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48. Cab 45/201, *Clive, Notebook Entry*, 16 August 1917

planning for Messines.[49] Before the year closed, forage shortages had forced a reduction in the basic horse ration, and the 449,880 horses of the BEF continued to out-eat its 2,000,000-plus men.

Also by mid-summer, petrol began to prove difficult to supply. Clive wrote, 'Petrol [a] great difficulty,' noting that the BEF used six million gallons per month.[50] While Jon Sumida has shown that this level of consumption pales in comparison with that of the Grand Fleet,[51] the consumption of the BEF remained significant because, unlike the Grand Fleet, the BEF had to move its petrol, oil and lubricant requirements forward from base ports to where they required it - in front of railheads. This difficulty increased as the German submarines preyed particularly heavily on tankers. At the root of the problem, however, Cowans, the QMG at the War Office, felt the petrol, oil and lubricant shortage in France could be blamed on 'establishments.'[52] Clive wrote:

> [Cowans] had a long talk in the evening about the necessity for the BEF to cut down some of its wants. Our 63 divisions have just the same outfit [establishment] as our 6 original divisions; and the War Office find it difficult to support it before the War Cabinet, who say we can not go on spending 8.5 millions per day. I think there is a good deal in what he says; certainly the French are more economical, and differentiate between fighting divisions and others.[53]

Not for the first time, the BEF had begun to experience problems that did not relate to their administration, either shortcomings or a lack of ability. Rather, force-structure problems had begun to cause the problems, in much the same way that the lack of

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49. WO 95/26, *AG Branch, War Diary*, 12 and 14 May 1917

50. Cab 45/201, *Clive, Notebook Entry*, 16 August 1917

51. Jon Tetsuro Sumida, "British Naval and Operational Logistics, 1914-1918", *The Journal of Military History*, Volume 57 (July 1993): 447-80.

52. Each British unit had a set and specific numbers of each item it should have, from men through shovels and artillery pieces. This, the British Army termed a unit's establishment.

53. Cab 45/201, *Clive, Diary*, 16 August 1917

economies of scale in munitions production had caused serious troubles in 1915.

Geddes's legacy also could not eliminate the pressing problem of man-power which plagued the BEF and its Dominion contingents. On 1 February, General Lawson submitted his report on the man-power situation to GHQ and suggested places where men might be found for the trenches.[54] Further combing out of the lines of communication resulted, but could not solve the man-power problems. Imperial formations did not suffer the shortages alone, however. A plan to send a fifth Canadian division to France had to be cancelled in March, 'owing to [the] unsatisfactory state of recruiting in Canada.'[55] Ultimately, the BEF had to dramatically reduce the size of its divisions in order to maintain the same number in France. By stripping a battalion out of each brigade, and using the men freed as replacements, the BEF maintained its paper strength in divisions, though, in fact, the strength went down considerably. The Canadian Corps successfully resisted this 'downsizing,' as its commander opposed the reduction vehemently.[56] In fact, he managed to increase the effective size and strength of his divisions by using the manpower from the two forming Canadian divisions in Britain. This gave Haig a single very strong corps - four over-strength divisions amounting to some 100,000 men (48,000 infantry) - but it also gave his administration a supply problem, since the standard divisional pack could not supply a Canadian division. In spite of this trouble, it did not appear to cause great

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54. WO 95/26, *AG Branch, War Diary*, 1 February 1917

55. Ibid., 21 March 1917

56. General Turner (Overseas Military Forces of Canada) Memorandum, ca. 10 March 1917, H M Urquhart Papers, MG30 E75, Volume 3, File 56, National Archives of Canada. The memorandum also argued that reducing the number of Canadian railwaymen on the lines of communication in France was dangerous because some 15,000 of 20,000 railway troops in France were Canadian, so the lines of communication could suffer.

difficulty on the lines of communication.[57] Indeed, it gets no mention in either the QMG's or AG's diaries, so it must be assumed that the rear echelons could manage comfortably with this, probably because of the fact that they had encountered difficulty with similar problems in 1914-15, had overcome them then, and now had a far more effective transportation system with which to solve the problem.

The problem of manpower caused considerable trouble for officers commanding bases because of the tacit threat that they might lose experienced administrators to front line duties. In January, the QMG and Director of Supplies agreed 'that officers serving with Colonial Units at Base Depots would count against the establishments of Depot Headquarters.'[58] This innocent enough agreement highlights the manpower problem since, the next month, the Director of Supplies received word that the officers thus made surplus (about twenty) might be withdrawn from the bases, which meant that his bases would have to handle the same volume of supplies as before with fewer men to do it. The Director had a list of those officers under the age of twenty-five submitted but also noted that:

> the Officers made surplus by the inclusion of Colonials in Establishments are employed in necessary duties which were not contemplated when the existing Establishments for Supply Depots were put forward in October 1916, and that it was impossible to make them available as reinforcements. Further than that, in view of the constantly growing requirements of his Depots and the opening of new ones, he was putting forward a request for an increase of ten percent on the previous establishment which would mean the addition of about ten reinforcements instead of the proposed withdrawal of about twenty. ... He also represented that several of the officers under 25 were unfit for service in the Field, while others were essential to the efficient working of the Depots.[59]

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57. How this was accomplished is not clear from British sources. One presumes that the BEF either sent up a double-size divisional pack, or let those portions of the line of communications responsible for Canadian supply design their own larger packs.

58. WO 95/42, *AQMG (Personal Services), War Diary*, 5 January 1917

59. Ibid., ASC/13922, 1 February 1917

The request then had to be set aside until General Lawson's report on the man-power situation had been considered by the appropriate committee.

General Lawson's report, duly submitted and considered, drew some criticism from a surprising source - Field Marshal Haig. The copy of Lawson's report at the Public Records Office contains Haig's marginalia, and these provide an insight to his grasp of administration. Lawson had, in his report, essentially endeavoured to comb out all of the class A men that he could find in France that did not serve with fighting units. Haig made little comment until the report began to discuss the lines of communication. On Lawson's note that 2,900 ASC men might be released, Haig wrote 'Cannot cut down personnel while an advance possible and strength of BEF may increase.'[60] While this might be seen as yet another example of Haig's fixation on the breakthrough, this is not fully the case as his further comments show. Lawson went on to recommend that establishments of ASC Motorised Transport Depots should be reduced, that the number of clerks and storemen be cut down and advanced depots at Abbeville and Rouen, which supplied line of communications units, be closed down. In all of these Haig fundamentally disagreed. He felt that the number of clerks represented a minimum and could not be reduced, though he did approved of replacing male clerks with women. In essence, Haig disagreed with any suggestion that numbers on the line of communication be reduced, with the exception of batmen. He approved of replacing category A men with B men in transport companies, but firmly drew the line at reducing his strength on the lines of communications. In this, Haig shows a surprising grasp of the vital importance of his lines of communication - one that had not been entirely evident in the BEF two years before. By resisting the drastic changes proposed by Lawson, Haig ensured that his lines of communication remained secure in their ability to meet the demands of his troops, and that no changes had to be made in

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60. WO 32/5093, *Lieutenant-General Lawson's Report on the Economy of Man-Power in France*: unless otherwise noted, all references in this paragraph refer to this report

the system used to supply his army.

The BEF's transportation and supply system proved so effective at moving supplies forward that the problems of 1916 - lack of transportation capacity - did not recur, rather, the BEF began to suffer from a reprise of the problems of 1915. For example, for much of 1917, the number of guns on establishment, rather than the numbers of shells for those guns, proved a significant hurdle for the BEF, since they began to run short through over-use. All rifled artillery tubes have a 'lifetime' measured by the total number of rounds each can fire. Each shell expended wears the rifling in the barrel slightly, and, eventually, wears it out to the point that the tube needs replacing. This could be done by re-boring the barrel to a larger diameter, by replacing the barrel, or by replacing the gun. The BEF had reached a point, however, where none of these options could be done fast enough to maintain the number of guns in the field, and by mid-June Haig had been forced to order that guns in quiet sectors should restrict ammunition use, 'to preserve the lives of the guns.'[61] The passage by General Monash cited earlier clearly shows that ammunition could be fired in large quantities without fear of running short. As a result, by early July Haig listed as being out of action and unable to be replaced, some 236 18-pounders, 23 60-pounders, and 12 6" guns.[62] These represented 7.72, 4.79, and 23.08 percent of the BEF's total establishments respectively, and are thus rather significant figures. Put another way, the BEF faced, with two of its most useful gun sizes, a shortage of thirty-nine 18-pounder batteries and fifteen 60-pounder batteries - a serious shortage. These shortages had begun to affect operations in the Messines - Passchendaele area, as this area had seen the most intensive fighting and, thus, the largest expenditure of ammunition.

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61. WO 256/19, *Haig, Diary*, OAD 291/27, to Army Commanders, 15 June 1917

62. WO 256/20, *Haig, Diary*, 5 July 1917

Figures 6:1, 6:2 and 6:3 illustrate the quantity of ammunition used by the BEF in 1917 and make it clear that ammunition had ceased to be a concern. May through early November are the Messines and Passchendaele figures and comprise the bulk of expenditure for that period. The administration must have benefitted from Geddes's changes and worked very hard to allow this scale of use because it would not have been possible before the changes he introduced. Such administrative efforts did not go unnoticed, as Haig continually praised his administrators' work in his regular Despatches to the Secretary of State for War. While it should be noted that he praised practically every branch of his army, Haig's grasp of administrative problems meant that the praise was well earned.

An indication of the importance of administration to formation commanders below army level, the ones using the new surfeit of ammunition to push forward operational innovation, can be had from XVIII Corps. The Corps Commander (Lieutenant-General Sir F (Ivor) Maxse), one of the few British generals to have been widely acknowledged by post-war critics as an outstanding commander, noted on his copy of XVIII Corps Administrative Instructions No.1 the words 'Ye Old Testament.'[63] Maxse must have had a great appreciation for the importance of the work done by his administrative staff. Yet, he does not appear to have interfered in the way this administrative staff worked - the legacy of the pre-war *Field Service Regulations* and an effective staff. For example, prior to Messines, upon issue of his instructions for XVIII Corps during the offensive, these instructions contained the following: 'Artillery and Administrative instructions are not attached and will be issued by "GOCRA" and Corps "Q" respectively.'[64] This methodology is close to that used in other 'British' formations. The Canadian Corps, for example, used a similar

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63. XVIII Corps No.AC/530/100, XVIII Corps Administrative Instructions No.1, Maxse Papers 69/53/8-32, IWM.

64. XVIII Corps No.GS 47/152, XVIII Corps Instructions No.1, 8, Maxse Papers 69/53/8-32, IWM.

system, though the Q Branch planning tended to be more completely integrated into operational plans.[65]

Lieutenant-General Sir Arthur Currie of the Canadian Corps had a similar appreciation for administration to that exhibited by Maxse. In explaining the reasons that his Corps had captured Passchendaele at the very tail-end of that offensive, administrative reasons ranked second and third on his list of nine. First, he paid credit to his men and their 'fighting spirit' - an intangible, but evidence that he, like most good commanders appreciated the importance of his troops. The next two reasons were quite tangible: 'adequate preparation,' by which he meant that he had had time to get the battlefield in a condition where success might be expected, and 'roads and light railways,' which the Corps had pushed forward into the salient at a considerable cost (1,500 casualties).[66] Currie, on going over the battlefield in October, had found that the troops in the salient suffered from a lack of artillery support, particularly heavy artillery, because they had out-run their communications. In fact, it was more the case that the deterioration of conditions in the salient, combined with German efforts in that area, had shortened the supply lines to the point that previously supplied guns found themselves out of supply. This illustrates the difficulty of tactical and operational supply, as opposed to the system used by GHQ which really dealt with theatre supply - in the battle area, the other side plays a significant role in one's ability to maintain supply and communications lines. Consequent on being granted time, Currie's command pushed a tram-line and road forward to allow supply. He later noted that the light railways (not the tram) had not performed particularly well because, he felt, of

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65. See Canadian Corps Instructions in RG9 III D3, Volume 4817: *L-C Instructions* Numbers 1 through 6 (Battle of Amiens) and *B W Instructions* Numbers 1 and 2 (Crossing of the Canal du Nord and Battle of Bourlon Wood), National Archives of Canada.

66. Lieutenant-General Sir Arthur Currie to Second Army, 20 November 1917, No. G.724/27-3, RG 9 III C1, Volume 3859, File 8, National Archives of Canada: unless otherwise noted, all references in this paragraph are from this source.

their semi-civilian nature. He felt that in an area subject to shelling, troops should maintain and man the light railways. In fact, Currie did not exhibit a particularly enlightened view of logistics, except that he understood its importance. Rather, as the commander of a national army, he could get political support that allowed him to get the time necessary to effect improvements in the salient - support that previous Corps Commanders, being British (the Australians later got the same kind of political pull), could not.

The creation of a salient is never desirable in military operations, as there is too much of a threat that the other side will find a way to pinch it off. Additionally, the enemy receives the ability to concentrate fire in the area of the salient at will. Yet, by October, the BEF continued to bludgeon its way forward into the slowly expanding Passchendaele Salient. This had the administrative effect of creating a logistic log-jam, since all supplies needed in the Salient had to go up on a small number of routes. The BEF had created an enormous traffic jam on the base of the new salient. However, Major-General Sir John Monash, an observer with a vital interest in order, since his division fought at the tip of the Salient, found himself able to write, 'in this apparent confusion and turmoil there is order and system, and every vehicle has a definite starting point, destination and purpose.'[67] Even so, at the cutting edge, food and resupply had become tenuous,[68] because all methods of tactical supply, and particularly light railways, could only be used with the greatest difficulty. The transportation system behind the railheads continued to function smoothly, however, and the supplies reached railheads with regularity. Therefore, GHQ's administration did its best, but where the Germans could hinder tactical resupply, they also did their best to do so.

At Passchendaele the German defenders had adopted artillery methods that

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67. Cutlack, *War Letters of General Monash*, 1 October 1917, 196.

68. Rod Paschall, *The Defeat of Imperial Germany, 1917-1918* (Chapel Hill, NC: Algonquin Books of Chapel Hill, 1989), 77.

concentrated heavily on light railways, which suffered heavily as a result and caused interruptions of forward supply because the BEF had not adopted a sufficiently varied system of tactical resupply. The lesson drawn was that motorised transport had proven more reliable in the face of intelligently directed artillery fire. This resulted in the policy the next year to concentrate on standard gauge and roads as the basic methods of battle supply.[69] Never the less, the British artillery must have taken a serious toll on the Germans, as, at the end of the battle, the Canadian Corps conducted a study of its own artillery operations and concluded that the Germans had not utilised their artillery very well - likely the legacy of the casualties inflicted by the British who had begun to utilise scientific gunnery principles.[70] What the BEF should have done to further improve matters, however, was to adopt a further-reaching policy which mixed tactical re-supply methods. Light railways were the best method, short of standard gauge, for supplying heavy artillery with ammunition because they could move great loads with relative ease and because the heavy artillery was generally sited well behind the trench lines. Likewise, in areas that the Germans could more actively interdict, both motor transport and pack train should have been used, leaving broad gauge to run to railheads. This might have somewhat eased tactical resupply for the corps and divisional commanders in the salient.

The Battle of Cambrai, fought in late November 1917, represents one of the most significant engagements of the war from an operational and administrative perspective. This is not because of the use of tanks in large numbers by Byng's Third Army, though that is certainly of some significance. Nor is it because of the German counter-attack that unveiled their new infantry tactics on the Western Front, though that, too, is of considerable significance. Rather, Cambrai is the first British attack that

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69. Taylor, 'Land Transportation in the Late War', 707.

70. *Canadian Corps Artillery Report on Passchendaele Operations Oct.17th to Nov. 18th 1917*, RG 9 III C1, Volume 3852, Folder 65, File 1, 14, National Archives of Canada; Bidwell and Graham, *Fire-Power*, 90.

fully utilised recent advances in scientific gunnery, allowing a completely predicted barrage with no preparatory bombardment.[71] This represents the true operational breakthrough of Cambrai - the BEF had begun to use artillery in a tactical and operational manner that the Germans could not cope with. From the stand-point of administration, however, Cambrai showed nothing new. Indeed, the BEF's administration had no great difficulty in supporting the attack. This anti-climax demonstrates that the artillery-intensive operational methodology beginning to take hold in the BEF could be comfortably supported by the administrative systems then in place.

Late in 1917 Geddes played another role in helping out the BEF, though in this he did not make such direct and dramatic changes as he had the year before with transportation. By the autumn of 1917, in addition to the problems arising in the Passchendaele Salient, the transportation of the American Expeditionary Forces to France used up a large amount of scarce shipping both to transport the AEFE and to resupply it and its lines of communication once in France. While the onus for a solution fell to the Admiralty because they controlled the ships, any reduction in shipping available for the movement of supplies posed a danger to the BEF's continued supply level. This naturally got the attention of the CIGS, who, along with Geddes, managed to sort much of the worst of the potential problem out ahead of time.[72] This coordination assured that the difficulties in 1918 would not be exacerbated by the presence of a second expeditionary force in France.

1917 had opened with the BEF in the middle of the reorganization undertaken by Sir Eric Geddes and the preparation for Arras. The shortage of rolling stock compounded the BEF's difficulty in preparing this offensive. However, the problems were sorted out, and Geddes's impact on the BEF proved profound. His

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71. Bidwell and Graham, *Fire-Power*, 71.

72. ADM 116/1805, Robertson to Pershing, 10 September 1917: also, a series of Geddes to Mayo (Admiral, USN), various dates

reorganization improved the BEF's transportation system, as his successor, P A M Nash passed on to him the praise for the transportation system offered by many Army and Corps Commanders late in the year.[73] The 'civilianisation' of the BEF had also received praise:

> The system of employing civil engineers with temporary commissions as R[oyal] E[ngineer] officers, as field engineers or assistant field engineers, under the Chief Engineers of Armies and Corps, has worked admirably. Most of these gentlemen are men of great experience of works...[74]

Geddes's reorganisation allowed the BEF to launch four offensives in 1917. Further, it removed the constraints placed on the BEF in prior years, particularly that of ammunition shortages. Haig's subordinates could now fire off ammunition at a rate which began to use up guns faster than they could be replaced, and restrictions had to be enforced to save guns, rather than ammunition. Abundant ammunition supplies allowed commanders to experiment with fire-power approaches to the tactical and operational problems facing them. Throughout 1917, the BEF advanced in these areas, and an increasing number of its attacks saw success, such as Vimy, Messines, Hill 70, and Cambrai. The approach used in these battles, and refined in 1918 proved to be the appropriate one to 'solve' the dilemma of the trenches - the application of fire-power in large, but controlled quantities provided the operational 'umbrella' under which the infantry could begin to re-assert their role on the battlefield. By freeing infantry of such restrictions, Geddes's transportation system allowed the BEF to advance its battlefield doctrine in whatever fashion it chose by early 1917.

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73. Ibid., Nash to Geddes, 22 September 1917

74. K G Scott-Montcrief (DFW), *Memorandum on Engineering Works and Organisation within the BEF 1917, 3 April* 1917 enclosed with Geddes to Granet, 16 April 1917, Granet Papers, MSS.191/3/4/71-78, MRCUW

Figure 6:1
Field Artillery Usage, 1917

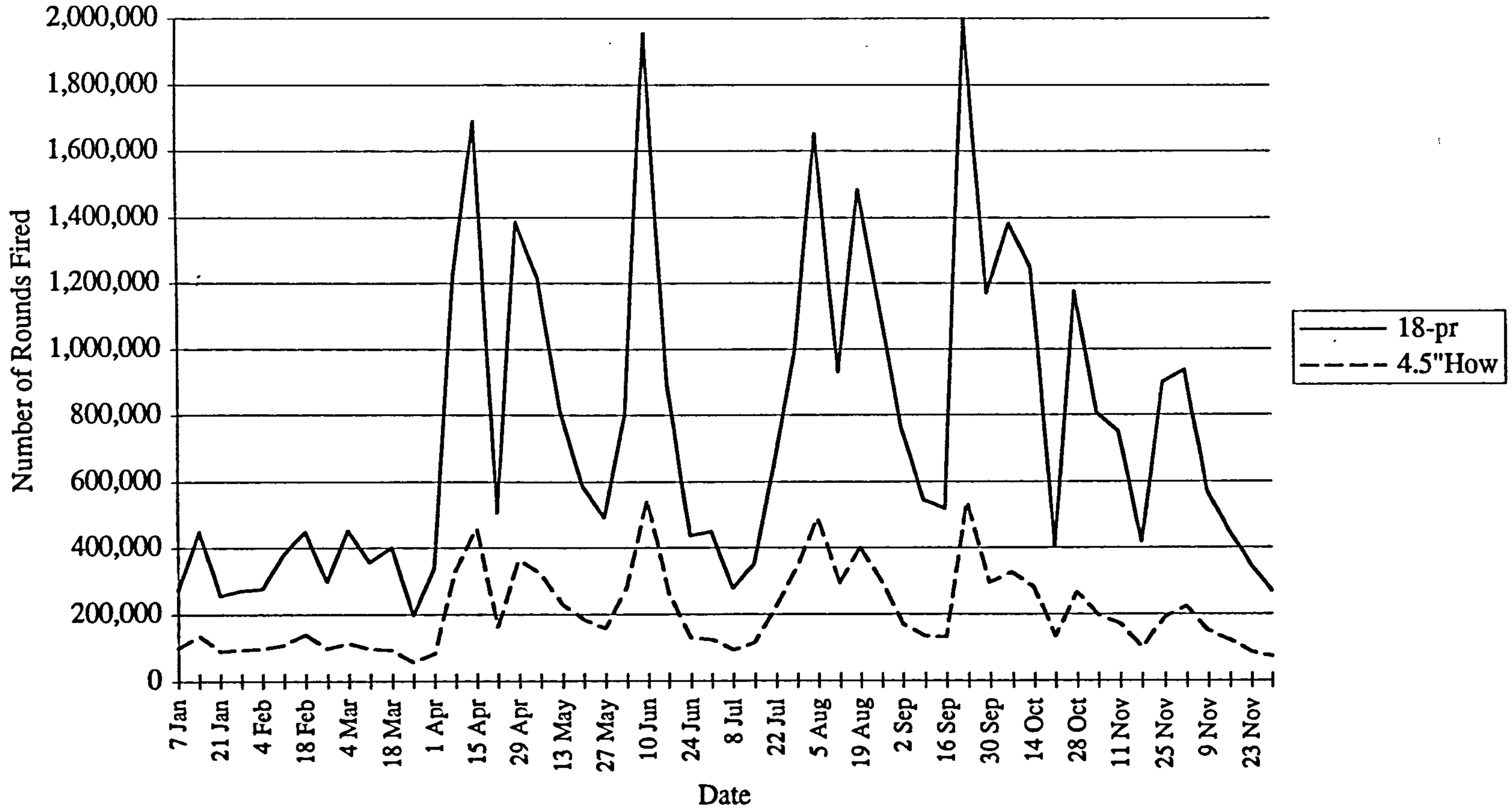


Figure 6:2
Heavy (Medium) Artillery Usage, 1917

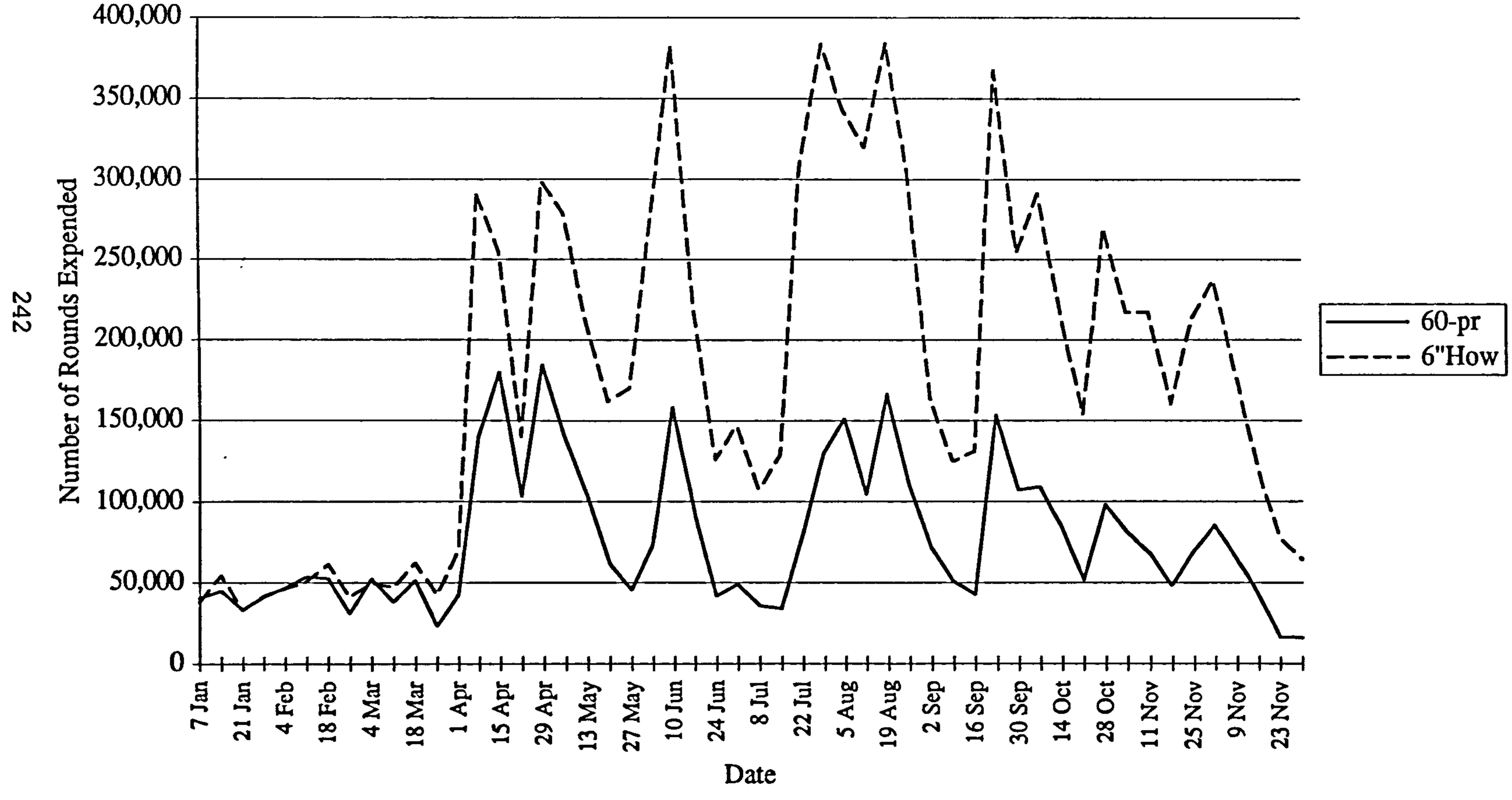
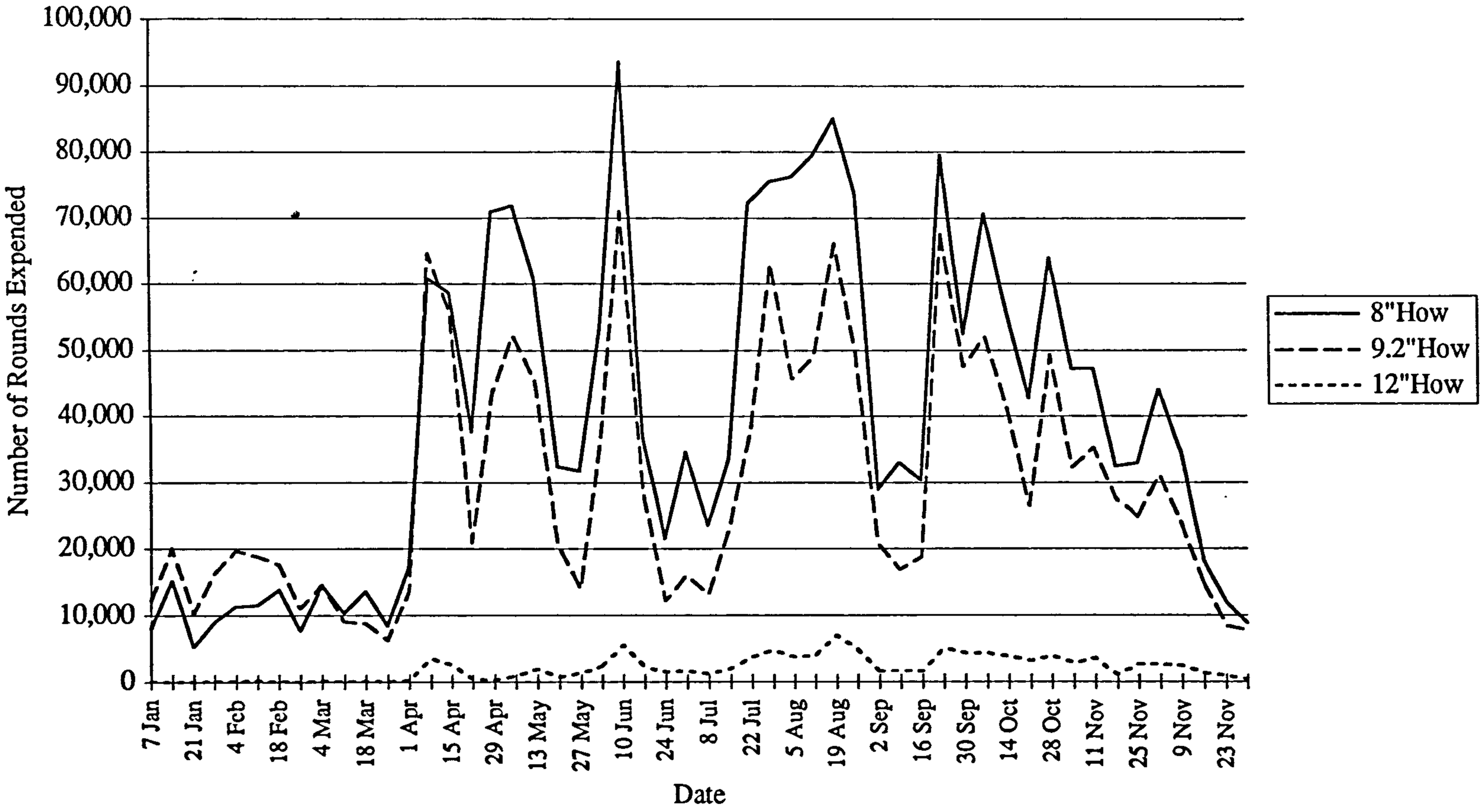


Figure 6:3
Heavy Artillery Usage, 1917



Chapter 7

The Challenge of Mobility:

Haig's Administration, Operational Success and the

Return of Movement to the Western Front

From the 21st of March 1918 onwards, the BEF faced its greatest challenge of the war because of the return to movement both defensively and offensively. Logistics and rear area services played a significant role in determining the outcome of such a return to movement. The Germans lacked an effective infrastructure capable of fully supporting their tactical offensives in the West and failed as a result. The Allies and particularly the BEF, while failing in a number of areas (such as defensive tactics), managed to provide consistently good support for their armies. The BEF learned the administrative lessons brought about by the German offensives, invested a tremendous effort on refurbishment and construction of infrastructure in the late spring and summer, and this helped lead to the battlefield successes of the autumn. Further, the administrative underpinning of the BEF did not require significant modification, because the decision to radically alter the rear area services had been made by Haig in 1916, while the final piece of tinkering - placing the DGT under direct control of the QMG - completed the process in 1918. The BEF proved itself, in late 1918, to be a most formidable force, and the Germans could not stop its offensive methodology - the set-piece attack - in the summer. This doctrine evolved in large measure because the BEF's innovators did not have to devise a system of attack based on shortages of material. Rather, administrative excellence allowed them to choose the best means of advancing in trench warfare. Finally, this administrative excellence allowed Haig far greater flexibility in his strategic decision-making than he had enjoyed previously. By the summer, he could launch simultaneous offensives, or sequential ones on widely separated frontages - something that had been unthinkable before 1918. As a result,

much of the BEF's success in 1918 can be traced to Haig's decision during the Battle of the Somme to allow Sir Eric Geddes to put the BEF's transportation system in order.

Despite the smooth-running infrastructure established by Geddes, the BEF had to overcome several potentially damaging supply problems unrelated to a coordinated transportation system. First, a clash of personality between Maxwell and Cowans meant the former had to be replaced. According to Edmonds, Lieutenant-General Sir Travers E Clarke (Travers Clarke) replaced Maxwell as QMG on 23 December 1917 after the latter's fall from a horse - though this is not the whole story.[1] This could have had serious ramifications for the BEF because of the importance of the QMG to its administration. When Robertson had come out to see Haig in mid-December of 1917, he had apparently raised the issue of Maxwell's fitness for his post of QMG, saying 'he is not active enough to get about the zone of the Armies, and the Army Council had no "confidence in him"!'[2] This evidently surprised Haig. While Maxwell might, indeed, not have been fit enough, or particularly liked as QMG, Haig raised the valid point that Maxwell 'did his work very well indeed.' He argued that Maxwell's 'department is huge and the Army had always been well supplied, never once a failure!'[3] Haig said he had resisted the attempt to remove Maxwell in late 1916 in order to avoid trouble during the transition to the new transportation system and that 'as far as I was concerned, I should prefer to keep Maxwell. Eventually I agreed to put Travers Clarke in Maxwell's place.'[4]

In fact, from the tone of letters written earlier that year, it is likely that Maxwell's removal stemmed from a fall from favour with Cowans - whom Robertson

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1. *BOH(1918, 1)*, 56.
2. WO 256/25, *Haig, Diary*, 15 December 1917
3. Ibid., 15 December 1917
4. Ibid., 15 December 1917

likely meant when he had said, 'Army Council.' Letters from Cowans to Macready and Maxwell had presaged this as early as April 1917. In the first, Cowans wrote Maxwell that:

> Lately, we [the War Office] have constantly had people in here, and have been shown letters, which show that the blame for any shortcomings or non-provision in France has been put down to the "fault of the War Office". I must say I don't mind criticism in the least, but it is rather galling constantly to hear that apparently our assistance is, if I may say so, belittled.[5]

Cowans went on to state that he did not know of any actual shortages in France. He admitted that Maxwell might not have always had the twenty-two day's reserves he wanted, but went on to write, 'the twenty-two days is only a figure of speech, and you have never actually been short.'[6] In other words, twenty-two days represented the ideal, not always a practical one, but one that the War Office had endeavoured to maintain. Finally, he told Maxwell that the Director of Supplies knew very well that the problems were generally shipping related, and that the War Office always kept GHQ's Directors aware of how their requirements would be met.[7] Cowans then wrote Macready to ask him to have a quiet word with Maxwell and suggest that Maxwell consider the War Office's position with more care.[8] Clearly, Maxwell had been warned to watch his comments. In light of criticism indicating that Maxwell ran Q Branch like a private fiefdom - far differently than either Robertson or Travers Clarke[9] - it must have been difficult for him to accept Cowans's criticisms. Cowans wanted closer relations to exist between GHQ and the War Office,[10] which is ironic in light of

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5. WO 107/16, Cowans to Maxwell, 10 April 1917
6. Ibid.
7. Ibid.
8. WO 107/16, Cowans to Macready, 13 April 1917
9. Nicholson, *Behind the Lines*, 302-3.
10. WO 107/16, Cowans to Macready, 13 April 1917

the evident close relations under Robertson and in the early months of Maxwell's tenure as QMG. Over time, relations had worsened and, as the senior quartermaster in the British Army, Cowans's displeasure must have been a factor in Maxwell's replacement by Travers Clarke, and this was of significance because friction between the BEF's QMG and Cowans might have had repercussions for the BEF.

Despite difficulties and criticisms, however, it is to Maxwell's credit that his tenure as QMG covered a period of time in which his departments supported five major offensives - the Somme in 1916 and Arras, Messines, Passchendaele, and Cambrai in 1917. Q Branch had gone about its business effectively, and such problems as eventually came to a head between Cowans and Maxwell had a minimal (if any) impact on the troops at the front. Travers Clarke moved over from A Branch and came into a smoothly functioning Q Branch, but one which faced a growing German submarine threat and the imminent German offensives known to be coming in the spring. Of the two, the submarines gave the most immediate difficulty.

The second major problem faced by the BEF was the German submarine blockade of Britain, as it began to have serious repercussions in late 1917 because of the number of British merchant vessels being sunk. In response to a warning from the War Office, GHQ issued instructions to all Armies on 25 January 1918 that they should plant as large an acreage of potatoes as possible in their own army areas, as supplying the BEF's needs after July might become increasingly difficult.[11] Cowans had informed Haig as early as 10 November 1917 (the day of the final assault in the Passchendaele campaign) of the grave shipping situation and this, in part, prompted the BEF to increase its agricultural production. Cowans wrote:

> I don't know whether to give you tonnage losses or not, but I may tell you, privately, that up to the end of this year, if the losses continue, they will amount to 11,000,000 of tonnage, whilst included in this is 3,000,000 for standard vessels which ought to be ready. This represents a seventh of the tonnage of the whole world, and the shortage

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11. WO 95/36, QMG Branch, War Diary December 1917, 20 December 1917; 25 January 1918

> will be something abnormal after the New Year. Every potato and every pound of hay, etc., that can be grown in France ought to be grown, because I very much doubt if you will get it otherwise as time goes on.[12]

The submarine offensive had precipitated a serious shipping crisis and thus threatened the BEF. In addition, the BEF had information that indicated potentially serious grain shortages, as the bumper crops of wheat in North America during 1914 and 1915, and oats and maize in 1915 and 1917, could not be relied upon to continue.[13] British shipping, and the tremendous surfeit of tonnage with which Britain began the war, helped determine their success in France by ensuring that, even with the submarine toll, supplies could be moved to France. However, it had clearly become increasingly difficult to maintain this supply.

As the merchant marine provided the backbone for continued supply lines between Britain and the rest of the world, its importance cannot be overstated. Any serious threat to British shipping not only threatened Britain's well-being, but also the success or failure of its armies abroad. By the end of October 1918, the merchant marine had provided transport for 23,700,000 single passages (one-way troop transport) in all theatres. They had also moved 2.2 million animals, half a million vehicles, and nearly 50,000,000 tons of military material, excluding food, munitions and other supplies shipped from Britain. This accounted for the equivalent of a year's imports for the entire British economy in normal conditions and, so, represents an enormous demand on the merchant marine.[14] The surplus of British shipping available

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12. WO 107/16, Cowans to Haig, 10 November 1917

13. Dawnay to CGS, 5 May 1918 forwards a note of a conversation between Borden Turner and Sir G Parish, Dawnay Papers, 69/12/2 File 5, IWM.

14. C Ernest Fayle, *The War and the Shipping Industry* (London: Humphrey Milford, Oxford University Press, 1927), 320. Additionally, Fayle notes that the 50 million ton figure excludes material imported to the United Kingdom for the munitions industry and the foodstuffs and other supplies re-exported from there for the military that originally entered Britain on civil accounts. J A Salter, *Allied Shipping Control* (Oxford: The Clarendon Press, 1921), 352, Table No. 4, gives British imports for the year 1913 as 52,793,000 tons.

in 1914 had allowed for the movement of men and materiel from all over the Empire to the theatres of war.[15] It also provided the only margin of safety against the submarine offensive which had taken an inordinate toll by 1917 and threatened to force a serious reduction in the British military effort overseas if sinkings continued at the pace Cowans feared.

The BEF's greatly expanded numbers had to be supplied by an ever shrinking merchant marine tasked with helping to move and supply the American Expeditionary Forces in Europe (AEFE), supplying expeditionary forces in Salonica, the Middle East, Mesopotamia, and East Africa in addition to the supply of much of Britain's trade and food requirements. In fact, the warning from Cowans proved overly pessimistic in estimates of tonnage lost, because the Admiralty finally adopted a war-saving, if not war-winning, convoy system for its merchant marine.[16] During the war, Britain lost nearly eight million tons of shipping, not counting the losses suffered by other allied powers and neutrals. Since new construction replaced less than half of the lost tonnage, the crisis can be seen.[17] By the end of the war, the merchant marine tonnage

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15. Fayle, *The War and the Shipping Industry*, 319-21.

16. Paul Kemp, *Convoy Protection: The Defence of Seaborne Trade* (London 1993), 52-3.

17. Salter, *Allied Shipping Control*, 355-9 and 361 gives the following:

	British Losses (tons)	Total Allied Losses (tons)
1914	252,738	319,400
1915	885,738	1,312,216
1916	1,231,867	2,305,569
1917	3,660,054	6,078,125
1918	1,632,228	2,528,082
Total	7,662,625	12,543,392

The total number of vessels launched came to 2,261 British ships totalling 5,808,000 tons out of an allied and neutral total of 5,827 ships totalling 13,584,000 tons. Of the latter figure nearly half was launched in 1918 after convoy had been adopted.

available had fallen to roughly eighteen percent below what it had been in 1914.[18] It would have been far worse had a convoy system not been adopted.

The third major problem that the BEF faced, and one over which they had no control, was Russia's withdrawal from the war effort which culminated in the signing of the Treaty of Brest-Litovsk on 3 March 1918. This did not help the BEF's situation because it forced Russia out of the war and had allowed the Germans to assume an offensive posture in the West with the troops freed from service in the East. With the increasing numbers of American servicemen in France as the new year began, it became clear that the Germans would have to undertake an offensive in the West before the new allied strength could be brought effectively to bear. As a result, the German High Command had been moving troops westwards since it had become evident that the end of the war in the east was imminent.

With a smoothly-running supply network, the BEF could turn their energies to the pressing problem of dealing with an enemy now concentrated on a single front - a tactical and operational issue more than an administrative one. A great deal of effort went into the BEF's preparation for defense against the German offensives expected in the spring of 1918. Each British Army prepared a defence in depth, usually patterned roughly after the German defence-in-depth system. As the BEF generally did not fully understand the new German system, however, they did not always do a particularly good job of imitating it. The planning did demonstrate a new awareness of logistic issues, however, as each army then estimated its supply needs for a defensive battle and decided on railheads in the case of fighting in each of three defensive zones. These figures amounted to roughly fifty daily trains per army, depending upon its strength. Fifth Army (Gough), for example, gave a daily rail estimate of one-half supply train per division (the standard divisional pack), one-half supply train per corps for Corps Troops, one supply train per day for Army Troops, four ammunition trains per corps in

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18. Fayle, *The War and the Shipping Industry*, 322-3.

the line, one engineering stores train per corps in the line, two roadstone trains per corps in the line, two roadstone trains for the Army Troops, and fourteen ambulance trains in the first twenty-four hours of defensive fighting (this dropped to twelve per day for the next 48 hours).[19] These figures may be taken as reasonably standard throughout the BEF since only the ambulance and ammunition trains could be expected to vary according to the scale of fighting on each front. Looking only at Fifth Army and Third Army (Byng), which would ultimately bear the brunt of the first of the German offensives, they could muster seven corps in the line with 21 divisions between them, and 12 divisions in reserve positions.[20] Assuming a static defensive battle, the 103 daily trains required could be maintained. Unfortunately, a static defensive battle was not what the German High Command had in store for Fifth and Third Armies.

At 4:40 A.M. on the morning of 21 March, the front-line troops of Fifth Army and Third Army came under the hurricane of fire unleashed by the German artillerist Colonel Georg Bruchmüller. Five hours later, three German armies (Below's XVII, Marwitz's II and Oskar von Hutier's XVIII) moved forward, spearheaded by their elite *sturmtruppen*. This onslaught marked the opening of the *Michael* offensive, made the BEF's carefully drawn up administrative plans redundant, and ushered in the end of the period of static, continuous front warfare which had heretofore characterised the Western Front. The Germans, advancing rapidly through the crumbling remains of Fifth Army's defence, threatened for a brief time to make this offensive the decisive one of the war. Ultimately, however, *Michael* petered out, gutted by German tactical over-

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19. *BOH(Transportation)*, 355-8, passim.

20. See Travers, *The Killing Ground*, 272 (map).

emphasis and operational, and strategic inadequacy.[21] They had over-run nearly one-hundred square miles of terrain on the opening day, to a depth of up to 4.5 miles, but they had failed to overwhelm Fifth Army.[22] Moreover, OHL had deluded itself into believing that both Third Army and Fifth Army had been shattered - this had not happened.[23]

The British assumed that one probable goal of the German offensive 'was to sever the British and French Armies and having accomplished that, to employ his [the German Army's] full strength to destroy the British Army as a fighting formation.'[24] The secondary objective of this offensive, again in British eyes, was to reach 'a position from which he would be within striking distance of the vitally important railway centres of Amiens and Abancourt.'[25] One British officer, G P Dawnay, summarised the intent of the German offensives in a letter to his wife:

> The German plan was to knock out *one* Ally - a very sound plan too. But they haven't done it - and the mere fact of the extent to which we [the BEF] have borne the brunt means that - someone else is fresh.[26]

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21. See Holger Herwig, 'Dynamics of Necessity' in Allan R. Millet and Williamson Murray (eds), *Military Effectiveness*, Volume I (Boston: Unwin Hyman, 1988) for a perceptive critique of the German war effort in general and the tactical offensives of the spring of 1918 in particular.

22. Wilson, *Myriad Faces of War*, 559-60.

23. Robert B Asprey, *The German High Command at War: Hindenburg and Ludendorff Conduct World War I* (New York: William Morrow, 1991), 384.

24. *Narrative of the German Attack on the XVIII Corps Front from 21st March - 27th March 1918*, 1, Sir Frederick (Ivor) Maxse Papers, 69/53/9 File 45, IWM

25. Rawlinson to Wilson, An Appreciation, 18 April 1918, Wilson Papers, HHW2/13, IWM.

26. G P Dawnay to Mrs Dawnay, 13 April 1918, Maj-Gen Sir G P Dawnay Papers 69/21/3, IWM. Emphasis in original.

Such a result would have come about more by chance than by design, however, as the German High Command (OHL) had no coherent strategic plan during the Spring offensives.

Regardless of the German General Staff's failure to adequately direct their offensives, the German offensives posed a dire threat to the British communications and logistics net because it placed Amiens in danger. Amiens was the major railway junction on the southern line of communications through which most rocade trains passed. Much of the surprise of *Michael* came because the British believed, as Travers argued, that as the northern channel ports, close to the front lines in the north, formed the bases for the northern line of communications then they would likely be the objectives of a large assault.[27] It is, as Travers illustrates, only part of the story, but it does help historians to understand how GHQ wrongly predicted the battlefront. While the northern channel ports were not the main first class base ports of the BEF, these being Havre, Cherbourg and Rouen, the ports in the north (Boulogne, Calais and Dunkirk) were vitally important and, indeed, very vulnerable due to their proximity to the front lines in the north. They would be an 'objective' of the April offensive, but had been spared German attention in March.

Logistics is a key issue in the study of the German offensives because their depth threatened to cut the BEF's lines of communication. Despite this, in discussions of these offensives, tactics have loomed large, while logistics has only been examined from the German side, primarily because of the apparent German failure in this area.[28] In one way, the *Michael* Offensive repeated a problem of the Schlieffen Plan - it forced the troops to march and fight at substantial distances away from their railheads. The German Army, however, could not match their earlier feats as, 'by 1918 the German Army as a whole was only a pale shadow of what it had been at the beginning of 1916,

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27. Tim Travers, *The Killing Ground*, 224-5.

28. Cf Herwig, 'Dynamics of Necessity,' 102.

and the victorious advance of the elite storm divisions petered out from the sheer fatigue of marching.'[29] Additionally

> it was its great speed [the German advance's] that eventually was its undoing as it so outran its rearward services that it had to halt for long enough to allow of sufficient resistance being organised by the Allied Command to hold it.[30]

Sheer fatigue and out-running rear area services do not reflect well on the German staffs of the time, nor does the lack of a coherent plan of campaign.

If the Germans threatened to outrun their supplies, the BEF faced the difficulty of abandoning established supply depots and assets on their line of communications in their retreat. On the Fifth Army front, the shelling of railheads, which began on 21 March, and the resultant German advance forced the BEF to revise defensive plans. The Army's frontal rail systems failed, as the Germans generally interdicted them with artillery or overran them early on, so administrative work became concentrated on denying the Germans the use of British forward supply dumps.[31] In this vein, all stores, hospitals, rolling stock and the like that could be evacuated was moved. Haig later said of this '[t]hat all this work was carried out so smoothly and successfully ... and that there was never any lack of food or ammunition for the troops reflects the very highest credit on all concerned.'[32] Indeed, it is a sign of the highly professional nature of the administration that it could cope with such sudden changes even when it had not been prepared to support a fluid battlefront.

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29. Bidwell and Graham, *Coalitions, Politicians & Generals*, 55.

30. *Burnett-Stuart Manuscript*, 82, Burnett-Stuart Papers 3/6/6, LHCMA

31. *BOH(Transportation)*, 371.

32. Boraston, *Despatches*, 239; Despatch of 20 July 1918; Cf also the account of Brigadier-General E Riddell in W Shaw Sparrow Papers, British Library. Riddell suggests that, in his experience, food came up quite regularly during the retreat. On 22 March, for example, he related that his troops had eaten a hot breakfast and later, on the 26th, he wrote 'the British soldier can do most things if you feed him well.'

Even when elements of the BEF made a stand, administrators still faced fluid battle conditions, as such stands created salients that placed portions of the line of communications under fire. Third Army (Byng) made the ill-chosen decision to defend the Flesquières Salient on the juncture of Third and Fifth Armies. By not withdrawing V Corps out of this indefensible salient in time, Byng committed that corps to a difficult defensive battle in which they ultimately had to withdraw under tremendous pressure.[33] This poor operational decision meant supplies to V Corps had to be pushed forward under fire and into what had become a fluid battle area. As a result, valuable equipment and specially trained personnel had to be pushed further forward than necessary and exposed to losses which the BEF could not afford. The wagon shortage on the railways, which had begun in 1916, still existed and worsened after the losses during *Michael* - defending the Flesquières Salient added further losses which need not have been suffered.

Ironically, by abandoning the Salient, the BEF denied the Germans the opportunity to destroy a good portion of the BEF, because the British facing Ludendorff's armies had ceased fighting in place.[34] Rather, the British had been forced to fight a more mobile form of defense, using fewer troops to hold the 'lines' (such as they had become). This left the German Army in the position of gobbling up vast amounts of territory of little strategic value that would have to be defended. Never the less, the condition of the BEF remained critical after Byng pulled Third Army out of its precarious position because a decision had to be made about maintaining support to Fifth Army.

The aftermath of the battle for the Flesquières Salient on the south flank of Third Army left a gap between that army and Fifth Army on their right which threatened

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33. For a balanced analysis of the battle and the decisions taken, see Travers, *The Killing Ground*, 234-6, passim.

34. Paschall, *Defeat of Imperial Germany*, 142.

both armies' line of communications. On 23 and 24 March, Haig was left with the difficult decision of whether to abandon Fifth Army and pull Third Army back and northwards or to try to hold the line between the two armies. The decision was to abandon Fifth Army[35] and is corroborated by the decision made at a QMG's conference on 24 March to prepare for the contingency of abandoning Fifth Army and, with the serious prospect of the Germans driving a wedge between Third and Fifth Armies, the QMG made the decision on 25 March to prepare to fall back to the north, running more supplies into the northern ports and scaling down the southern line of communications - in effect abandoning Fifth Army.[36] The next day, the QMG decided to let the French take over the line up to the Somme and absorb Fifth Army and one under-strength corps.[37] On 26 March, the QMG made the decision to carry out the plan to all but close down the southern line of communications, and supply the army from the north as much as possible, as the situation was critical.[38] The Ordnance depot at Amiens was cleared by the 28th, and schemes were being considered for the demolition of ammunition dumps on the southern line. However, on 31 March, the Director of Ordnance Services was able to write, 'situation greatly eased. Germans held up south of Somme, being foodless.'[39] For the first time since August 1914, British administration had to deal with supplying armies on the move, and with supplying a retreat. Moreover, they had to do it with a force some twelve times larger than it had been in 1914. However, the difficulties with Third Army and Fifth Army came from strategic and operational problems rather than any administrative inadequacy. The

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35. Tim Travers, *The Killing Ground*, 237.

36. WO 95/59, *Director of Ordnance Services, War Diary, March 1918*, 24 March 1918

37. Ibid., 1918, 25 March 1918

38. Ibid., 26 and 27 March 1918

39. Ibid., 1918, 31 March 1918

ability of Haig's lines of communication to cope with this crisis, with the increase in scale and with the speed of the movement is most impressive, since they simultaneously had to prepare for a number of contingencies.

In the midst of the crisis, considerable additional administrative planning occurred that had the goal of helping to restabilise the front. For example, the QMG made a desperate effort to construct deeper defence in order to slow the Germans down. Formations and administrators needed some form of central direction from GHQ's operations side, but this was not readily forthcoming. Edmonds wrote, for example, that:

> the E[ngineer]-in-C[hief] instructed the Director of Works of the Lines of Communication, Major-General Sir Andrew Stuart RE, with me as his staff officer, to collect all the men he could spare to construct back lines. They rolled up a mighty force; all could dig and put up wire, but many had no idea how to use a rifle. ... As the situation grew worse, some information of the GHQ policy became essential. Biddulph and I went to the General Staff. We could learn nothing from Lawrence (CGS) or Dawnay (his Deputy), both Palestrinians [sic] and not used to fighting Germans. They seemed terror-stricken. We finally went to Colonel John Dill, who seemed to be the only senior member of the General Staff (Operations) who had kept his head.[40]

While it must be borne in mind that Edmonds was a Sapper and, so, might be expected to play up his role at the time, or down-play the role of others, this is a telling passage. It helps to illustrate the confusion caused by the German offensives at GHQ - Dill could not, in fact, help, as no decision had been made. The particular difficulty for the administrative staff was two-fold. First, the offensives themselves, by their depth, threatened the lines of communication. Secondly, A and Q Branches needed rapid decisions, because of the time-lag involved in administrative matters, and these decisions proved slow in coming. The AG and QMG had only been brought up to date on 23 March at a meeting with the CGS where the AG and one of Travers Clarke's Deputy Quartermasters (DQMG(A)) were included while the situation was explained - two days after the offensive had begun.

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40. *Edmonds Memoirs, Chapter XXX: Five German Offensives*, 621-2, Edmonds Papers III/14, LHCMA

During 25 and 26 March, the administrative echelons of GHQ kept very busy working out contingency plans for the evacuation of the Amiens - Abancourt - Dieppe - Abbeville area but had little input from the operations side of GHQ. The loss of this area would have hurt the BEF tremendously, so GHQ had to make plans to determine what could be moved and what had to be destroyed.[41] As these directly affected his branch, the QMG made the majority of these decisions. Indeed, the pronounced duality at GHQ in March, as the AG and QMG worked to protect rear areas and the operations side of the headquarters preferred to concentrate on operational matters, meant that only the QMG could make these decisions. More attention from the operations side, or simply better co-ordination of the whole of the General Staff by the CGS, would have certainly resulted in lighter losses of equipment and materiel during March. Further, better cooperation with the French prior to the crisis might have led to a more coherent defensive strategy and no need for the decision to effectively abandon Fifth Army.

Ironically, the Doullens Conference on 26 March resolved Franco-British differences, placed both national armies under the overall command of Ferdinand Foch, and eased the crisis as a result.[42] Indeed, this conference, and the decisions taken there, made the QMG's difficult decisions of both 25 and 26 March largely irrelevant. While Fifth Army might be difficult for the BEF to supply, the French endeavoured to supply them, and the allies maintained a continuous front as a result. However, no administrative officers were present at the Doullens Conference - only Army Commanders and their MGGS's accompanied Haig and his CGS. While kept somewhat up to date on conditions, neither the AG nor the QMG had much say in the situation, and had to get full information through their own administrative channels.[43]

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41. WO 107/35, *Measures to be Taken in the Event of the Abandonment of the Amiens - Abancourt - Dieppe - Abbeville Area*

42. Tim Travers, *The Killing Ground*, 237-8. *BOH(1918, 1)*, 538-544, passim.

43. *Operations, Western Front, 1918-19*, Dawnay Papers 69/21/4, IWM

The BEF's administrative services were not immediately advised of this conference or its results, which would have allowed for the continued full use of the southern line of communications, until at least 27 March, when Haig finally saw and received reports from his AG and QMG. Haig wrote that the QMG was preparing for the contingency of the loss of Amiens.[44] At roughly the same time, however, Ludendorff's refusal to provide a coherent strategy for his offensives had begun to result in General Oskar von Hutier's 18th Army beginning to lose direction and impetus by 28 March.[45]

The two-tier staff system which resulted from the pre-war *Field Service Regulations* promoted considerable confusion during the March offensive because it inhibited close cooperation between operations and administration. Haig and the General Staff only appeared to have realised how serious the battle was on the 23rd or 24th.[46] However, the administrative echelons, particularly the Directorates of Supplies and Transport, and Ordnance Services, saw the danger early on, perhaps because the rapidity of the German advance threatened the railheads to which they had to move supplies. Logically, these directorates would see the danger first, since they were the ones moving by far the largest volumes of materiel and traffic to railheads, but G Branch should have been on top of the situation to a far greater extent than they apparently managed. It seems strange that the administrative concern appears not to have been relayed to the General Staff immediately as it might have helped G Branch to put the picture together more rapidly. This lack of communication worked both ways, however, as Q Branch worked at closing down the southern line of communications, even after the Doullens Conference had led to the easing of the situation. Indicative of this, in part, was the decision on 29 March to reduce the tonnage shipped to Havre and

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44. WO 256/28, *Haig, Diary*, 27 March 1918

45. Prior and Wilson, *Command on the Western Front*, 284.

46. Tim Travers, *The Killing Ground*, 242.

Rouen by sixty percent, while increasing that to Calais by the same figure[47] - the sheer number of Allied troops north of the Somme or moving there (86 divisions by early April) accounts for a significant portion of the increase. Clearly, the threat to Amiens constrained the QMG's choices. In spite of the confusion generated by the two-tiers of staff at GHQ, the administration coped well with the chaotic situation. The valuable lessons learned regarding supply in semi-open warfare, primarily that it did not mean any lessening in demands for such things as artillery (as might have been expected), could be applied once the German Army had fully expended itself.

Despite the problems of the retreat, supplies kept moving forward because GHQ's administrators kept in close touch with each other after the offensives began. The Director of Supplies kept in regular, though not always daily, contact with the QMG until 21 March. After that date, the contact became daily, almost constant.[48] This facilitated the movement of supplies and lessened the chance of losing rolling stock, since the Director of Supplies could plan and co-ordinate movement with the DGT based on timely information on the situation. In spite of the chaos caused by the German offensives, GHQ satisfied Corps' supply officers with the rations coming forward by 28 March and by 1 April, Fifth Army's supply situation had become generally good. The pack trains arrived regularly, and supply officers experienced no difficulty in supplying needs above the established scales.[49] The Director of Supplies had allowed large food reserves and dumps to be eaten down when he considered them

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47. WO 95/59, *Director of Ordnance Services, War Diary, March 1918*, 29 March 1918

48. WO 95/77, *Director of Supplies, War Diary, March 1918*, 21 March onwards, various entries

49. WO 95/77, *Director of Supplies, War Diary, March and April 1918*, 28 March and 1 April 1918

to be too close to the battle area.[50] This simultaneously eased transportation problems and prevented the capture of many large dumps.

During the first of the spring offensives road traffic control in Fifth Army's rear areas proved practically non-existent which should have hindered tactical resupply. Roads, choked with both military and civilian traffic, made it very difficult to moved supplies forward from railheads.[51] Though the ration and supply system found itself badly handicapped by the disruption on the roads, not to mention that caused by rail congestion, few shortages occurred for the troops. When rations and the like failed to move forward from railheads, collecting parties sent out by units and formations generally managed to find sufficient food and supplies in abandoned canteens, stores and dumps to meet their needs.[52] The supply of ammunition also remained excellent throughout the offensive.[53] Supplies reached the railheads in quantity, and the various formations had to come up with different methods to ensure tactical resupply of their units. For example, 12 Division resorted to the expedient of feeding an area of troops, regardless of their unit affiliation as the best way to move food.[54] 12 Division had also discovered that they had to take ammunition right up to the guns rather than dumping it on roads (an earlier idea),[55] but this endangered the motorised transport.

Retreat and the return to movement caused problems for the QMG. To begin with the QMG reported that, based on estimates that had been compiled, the losses in motorised transport had been more severe than he had anticipated. Some 380 lorries

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50. WO 95/77, *Director of Supplies, War Diary, April 1918*, 2 April 1918

51. *BOH(1918, 1)*, 534-5.

52. Ibid., 535.

53. Ibid., 535.

54. E H E Collen ts., 29, E H E Collen Papers, IWM.

55. Ibid., 24.

and, most seriously, 80 Holt tractors had been lost.[56] While not a desperate loss, indeed they represent a tiny fraction of the motorised transport available, they proved more difficult to replace than artillery, since the stocks of motor vehicles in Britain had been largely used by the BEF and other expeditionary forces - probably because the production of motor vehicles in the United Kingdom did not benefit as fully from the economies of scale which the munitions industry enjoyed after 1916. By 29 March the Germans held Bapaume, Albert, Péronne, Nesle, Ham, Chaury, Noyon, Roye and Montdidier. The British held new front lines, in some places forty-five miles from where they had been eight days previously, with the Germans on the outskirts of Villers Bretonneux and able to shell Amiens, only ten miles distant.[57] This meant that nearly all of Fifth and Third Army's railheads from a fortnight before had been captured, along with rolling stock and many miles of broad and narrow gauge railway track, and that north-south movement behind the front through Amiens had become very hazardous.

Due to the fighting, the BEF expended an enormous quantity of ammunition in the spring which greatly taxed the line of communications. In the three weeks following the launch of the *Michael* Offensive, the artillery used just short of 5.5 million 18-pounder and nearly 1.5 million 4.5" howitzer shells.[58] This represented nearly the total number of 18-pounder shells available to the BEF just prior to the Somme Offensive twenty-one months previously. During April, 725 ammunition

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56. WO 107/16, Travers Clarke to Cowans, 31 March 1918; see also, War Office, *Statistics of the Military Effort of the British Empire During the Great War, 1914-1920* (London: His Majesty's Stationery office, 1922), 593-4 for tables showing numbers of motorized vehicles in each theatre of war. Hereafter this work will be referred to as *Statistics*.

57. See Sketch Map, *BOH(1918, 1)*, 532.

58. *BOH(1918, 2)*, table, 494.

trains ran to the front[59] - nearly as many as ran during the whole five months of the Somme Offensive. In both months combined, the BEF fired nearly nine million 18-pounder shells, and over fifteen million shells in total, of which, heavy shells numbered nearly four million rounds.[60] However, with the exception of 9.2" howitzer shells which used fifty percent more ammunition than the BEF received, the receipts of ammunition at the base ports significantly exceeded expenditure. For example, the field and what would later be called medium artillery (60-pounder and 6" howitzers) used between sixty-two and seventy percent of receipts. The heavy artillery other than 9.2" howitzers used between seventy-eight and ninety-six percent of receipts.[61] In total, during the March and April offensives, the BEF's rear area services moved nearly 350,000 tons of ammunition, an average of more than 8,700 tons per day (more in March), over tracks heavily congested by the dislocation caused by the German advance and efforts to interdict vital junctions.[62] The German offensive of 21 March cost the BEF, in gun casualties, 473 18-pounders, 137 4.5" howitzers, 44 60-pounders, 146 6" howitzers, 11 6" guns, 33 8" howitzers, 12 9.2" howitzers, and 3 12" howitzers by 28 March. However, the reserves of guns had reached the point that this still left the BEF with surplus stocks of all guns except 12" howitzers, of which they found themselves short by two, and the only shortage came in carriages for the 18-pounders.[63] This reflected not only the increased production in England, but the better ability to keep and maintain stocks on the lines of communication for just such an eventuality. Further, it indicates that the BEF had the capability to act effectively in

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59. WO 95/38, *QMG Branch, War Diary, April 1918*, 30 April 1918

60. *BOH(1918, 2)*, table, 494.

61. *BOH(1918, 2)*, table, 494.

62. These figures, based on earlier estimates of train capacity, amount to roughly 23 trains per day, or a total of 945 over the course of the offensive.

63. WO 95/59, *Director of Ordnance Services, War Diary*, 28 March 1918

semi-open warfare, despite enormous demands on the administration and the potential loss of significant quantities of material.

The April offensive threatened Hazebrouck; a very important northern line of communications' railway centre and the northern line of communications' equivalent to Amiens but it also demonstrated the BEF's improved ability to cope with logistic changes and the German inability to adequately support their offensives.[64] The offensive materialised slowly, with the first probes occurring as early as 28 March, but never threatening the defence because the BEF recognised Hazebrouck's importance and thus had the area well defended. The main German effort, one that might threaten Hazebrouck, did not begin until 9 April against First Army (Horne), with an attack on Second Army (Plumer) beginning the next day. Even so, Ludendorff had reduced the size of this attack (initially termed *St George*, but now renamed *Georgette*) because of the casualties in the south that had reduced his available man-power.[65] This northern attack illustrated many of the same problems as had occurred in the south. In particular:

> The inability of the artillery or the logistical echelons of Ludendorff's forces to keep up with the superb infantrymen, loss of contact between the air element and the assaulting divisions, and the rapid growth of distance between the foot soldiers and there supporting arms were much in evidence during this northern attack.[66]

This proved a fatal problem, as it had in the south, and had been caused by an apparent lack of concern on the part of the German General Staff for the co-ordination of an

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64. WO 95/59, *Director of Ordnance Services, War Diary, April 1918*, 12 and 13 April 1918

65. Asprey, *The German High Command*, 392-3.

66. Paschall, *Defeat of Imperial Germany*, 149.

operational system in their drive to create tactical excellence - a mistake the BEF would not imitate later in the year.[67]

The British had learned from their experiences in March that railheads needed to be located further behind the lines. In spite of this, when the attack did fully develop, both armies lost rolling stock and light rail systems.[68] By 27 April, when the offensive on the Lys petered out, the Germans controlled Armentières, Bailleul, nearly the whole of the ground won during Passchendaele, and Estaires. Further, they were on the edge of Ypres in the north, only 2,500 yards from Bethune on the south, and 6,000 yards from Hazebrouck in the centre.[69] This handicapped the BEF by ensuring that both of their major forward marshalling and switching yards remained interdicted until the summer. A labour shortage posed a further problem to the BEF and this, in turn, created serious railway problems. However, this attack can also be broadly termed a failure. General von Quast's VI Army had pushed to within five miles of Hazebrouck by 12 April,[70] yet they could not take it. Further, as in the south, the German Army had simply taken possession of yet more strategically useless terrain that they had to defend.

Roughly simultaneously with the attacks in the north, on 4 and 5 April, the Germans seized the ground up to Villers Bretonneux and later pushed still closer to

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67. Timothy Lupfer, *The Dynamics of Doctrine: The Changes in German Tactical Doctrine During the First World War* (Fort Leavenworth, KS: Combat Studies Institute, U S Army Command and General Staff College, 1981) indicates on 42 that the reason for this was the desire not to stunt the initiative of the infantry. While Lupfer assesses the Germans to have designed a system that stressed co-ordination of all arms, that system, in practice, only carried it to the extremes of the artillery's range whereupon it broke down. See Brown, 'Not Glamorous, But Effective,' especially 441-3 for a discussion of the differences between German tactics and British operations.

68. *BOH(Transportation)*, 376-7.

69. See Sketch Map, *BOH(1918, 2)*, 442.

70. Asprey, *The German High Command*, 393.

Amiens which illustrated that they had some understanding of Amiens' logistic importance to the BEF, but not enough to mount a major effort. However, counter-attacks by elements of Fifth Army 'drove the Germans from Villers Bretonneux and halted for good their progress on the Amiens front.'[71] Despite this success, as late as 26 April, the vitally important city of Amiens remained under German shell fire, largely for interdiction and harassment purposes, as another assault there could not be supported.[72] Amiens' importance may be seen from an appreciation by Fourth Army's commander where he observed:

> There can be no question but that the Amiens area is the only one in which the enemy can hope to gain such a success as to force the Allies to discuss terms of peace.[73]

As Amiens formed the hub of almost all of the BEF's forward railway operations, anything that needed running between railheads had to go through Amiens, or be taken back to regulating stations near the base ports, so the shelling added to the congestion. Given the vigourous British efforts to defend Amiens, it is surprising that the German High Command seems never to have fully realised its vital importance to the BEF.[74]

The Germans made great efforts to disrupt the BEF's lines of communication in May, but strenuous British activity largely mitigated the German effort. This is clear from entries in the Director of Ordnance Services' War Diary that month. The first, on the 21st noted that No.12 Ordnance Depot at Blargies had been bombed overnight and 5,000 tons of ammunition lost. The next night, the Germans bombed No.20 Ordnance

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71. Prior and Wilson, *Command on the Western Front*, 284-5.

72. WO 95/38, *QMG Branch, War Diary, 25 to 26 April 1918*

73. Rawlinson to Wilson, An Appreciation, 18 April 1918, Wilson Papers, HHW2/13, IWM

74. General Gough, later in the year, wrote that a push through Amiens to Abbeville would have left the BEF in a very dangerous position as Calais and Boulogne could not have supplied their needs. As a result it might have threatened the BEF's evacuation or destruction. See Gough to W Shaw Sparrow, 18 August 1918, Shaw Sparrow Papers, British Library.

Depot at Saigneville and cost the BEF 60 million rounds of small arms ammunition.[75] The peak of British railway problems occurred in May when German action forced the abandonment of the St Just - Amiens - Hazebrouck lateral line due to shell-fire.[76] This helped to disorganise the railways to the point that they had almost reached a 'state in which they could be disregarded as a factor in the military situation for large movements.'[77] The motorised transport assets filled the gap however, largely because GHQ had, the prior winter:

> (1) [withdrawn] into GHQ reserve every M[otorised] T[ransport] vehicle which could be spared from units, and [reconditioned] them as quickly as possible[;]
> (2) [made] the fullest possible use of light railways during the quiescent winter period, and thus [saved] the roads against the time when they would be vital to us [while carrying] out the fullest possible programme of road repair[;]
> (3) [Pushed] standard gauge railheads as far forward as practicable, so that troops could draw supplies directly from as many as possible with their unit horsed transport[; and]
> (4) [formed] general purpose M[otorised] T[ransport] companies in GHQ reserve from the reconditioned lorries withdrawn from formation.[78]

Of these, only the third contingency proved to be in error, as the BEF lost a number of these advanced railheads in March and April.

Having weathered the worst of the German efforts, a critical man-power crunch hit the BEF in May and impacted both its fighting ability and logistic support. On 9 May, the AG was informed that the estimates for total reinforcements available for France from May to August were only 93,000.[79] In the event, this proved overly pessimistic and sixty to eighty thousand reinforcements per month were received by the

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75. WO 95/59, *Director of Ordnance Services, War Diary, May 1918*, 21 and 22 May 1918

76. M G Taylor, 'Land Transportation in the Late War,' 708.

77. Ibid., 709.

78. Ibid., 708.

79. WO 95/26, *AG Branch, War Diary, May 1918*, 9 May 1918

combat units.[80] This can, presumably, be explained by the return of a large number of convalesced wounded to France. However, even this significant reinforcement total proved inadequate and the infantry strength of the BEF dropped steadily during the spring. Added to this, an influenza pandemic invalided or killed large numbers of men in the trenches and on the lines of communication. While the BEF would have had an easier task without this complication, at least influenza affected the Germans as severely as it did the BEF.[81] Ironically, the depletion of the BEF's front line strength probably aided the administration's efforts because the divisional packs remained unchanged, which meant that more than sufficient was being sent up. Additionally, the German High Command had given their best effort to the attacks on the BEF, and could no longer mount offensives of the size they had done in March and April.

The QMG based his planning in May on a series of contingencies thought possible because the BEF did not fully realise that the Germans were largely spent, and contingency planning was a sensible precaution. GHQ adopted the attitude that:

> The policy was governed by the principle that, whilst loss of territory to the enemy is a misfortune, it is a seriously aggravated misfortune if with the territory go means of communication and stores of supplies; and was designed to minimise, by forethought and pre-arrangement, loss to ourselves and assistance to the enemy in the event of withdrawals.[82]

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80. WO 95/26, *AG Branch, War Diary, January to December 1918*, various monthly entries

81. For a sound study of this serious pandemic, see Alfred W Crosby, Jr, *Epidemic and Peace, 1918* (Westport, CT and London: Greenwood Press, 1976). Crosby discusses the nature of the influenza pandemic that swept the globe in 1918-19 and the particular pneumonic complications that made it lethal. His focus is on the American experience and he shows that the first wave struck America in the spring of 1918 (26-8) with a more severe outbreak in the autumn which cost the AEFE an 'avalanche' of influenza cases (68,760) during the Meuse-Argonne Offensive (161) and this in units whose troops had been partially immunised by exposure to the influenza in the spring while they were in American bases. One of the astonishing things about this particular influenza is the disproportionate number of victims in the 20-29 age group, an age group that would have been expected to show a low mortality rate.

82. WO 95/38, *QMG Branch, War Diary, May 1918*, Explanatory Review, May 1918

The QMG decided to create a sector by sector maintenance threshold where withdrawal would be deliberate once a certain point had been reached - a sound policy designed to minimise loss. Further, the creation of the so-called St Omer Line gave a viable retreat option, if necessary. In May, GHQ also began to assess how to rework the administrative services should they be forced to fall back to the newly built St Omer defense line. As part of this plan, the BEF began to move all depots south of the Somme, took over all rail facilities south of the Somme, and were granted all of the Boulogne wharfage and the opening of St Valery-sur-Somme.[83] Further, the QMG asked the CGS to begin preparing contingency plans in the event of this fall back, or the loss or blocking of Calais and Boulogne[84] - a clear sign of the seriousness with which the British continued to view the German threat. The St Omer Line was not the best of options, since a retreat on it would leave Dunkirk untenable, Calais under long-range shell-fire, and a number of depots would have to be abandoned.[85] However, the potentially formidable defensive works on the line would allow for some stability in the event of withdrawal.

In light of the arrangements for the withdrawal to the St Omer Line, GHQ and GQG began to make further arrangements for the care of each others' divisions when they had been moved to different army areas which allowed divisions to be thrown into stopping the German advances without concern over nationality. They agreed to feed each others' troops on their own scales, to loan equipment, and in general appear to have made an effort to accommodate each other.[86] GHQ went so far as to open up a Q-GHQ South in the French zone to help move supplies. In general, however, there was

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83. Ibid., 1 to 2 May 1918

84. Ibid., 3 May 1918

85. *BOH(Transportation)*, 383.

86. WO 95/38, *QMG Branch, War Diary, May 1918*, 15 May 1918

a lack of friction and both armies helped each other freely when difficulties arose.[87]

Simultaneous with plans for the retreat to the St Omer Line GHQ's administrative side planned a far more dangerous option - their worst case scenario. In case of the St Omer Line being rendered untenable, and given the continued possibility of a split between British and French Armies, and the decision to hold a continuous front at all costs made at Doullens, the so-called 'Z Plan' was devised. This called for a complete evacuation of all British assets north of the Somme River behind that river. The creation of a line of defense on that river, drawing all supplies from the southern line of communications, would follow.[88] The most interesting facet of the Z Plan was the apparent lack of guidance from Operations staff at GHQ. It appears that the driving force behind the plan was the QMG, and that as the plan evolved, he kept the CGS aware of the changes.[89] While illogical, the Operations Staff did not provide suggestions for this plan, which would have greatly constrained their operational and strategic options. This is another illustration of the separation between operations and administration in the BEF, and a puzzling one at that. The CGS should have been *very* interested in the Z Plan, since it represented a decision by the BEF to give up any hope of offensive operations in France, as it would cripple their ability to keep sufficient troops supplied to maintain one.

While actually stopping short of Amiens and Hazebrouck, the German March and April advances hurt the BEF's lines of communication by capturing several light rail systems, a number of broad gauge engine depots, and by placing the main frontal lateral line under fire. In addition, the Germans mounted air attacks on the rear lateral line at Etaples and Abbeville. The rear line was, as a result, subject to minor delays

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87. Ibid., Explanatory Review, May 1918

88. *BOH(Transportation)*, 384.

89. WO 107/33, *Action Required in Event of Withdrawal from St. Omer Line*: minutes

while the front line was usable but precarious.[90] As a result, a tremendous cumulative strain stressed the whole railway system. The front line could not be used fully, so the back line received more traffic. Minor delays on the back line added to congestion, which forced the administration to try to move more materiel by other means. This meant that the motorised transport took up a very heavy load and, in fact, this left the roads, 'in a critical condition' due to the increased traffic.[91] Ultimately, this cumulative congestion forced the stoppage of all non-necessary traffic for three days in early June and a conference at Calais to try to find a better way to utilise engines and rolling stock.[92] This, combined with a massive railway building program solved the problem and actually left the BEF's railways in better shape by early summer than they had been prior to the offensives.

Surprisingly, while the German offensive of 21 March received frequent mention in the War Diaries of a number of Directors, it did not get mentioned in that of the QMG.[93] This changed in April. The QMG wrote of April that:

> Operations during April put a very serious strain on 'Q' administration. The character of the War had changed from stationary to moving over almost all the British Front, calling for a return to a mobile system of supply and for new classes of material.[94]

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90. WO 95/38, *QMG Branch, War Diary, May 1918*, Explanatory Review, May 1918

91. Ibid., 8 May 1918

92. WO 95/39, *QMG Branch, War Diary, June 1918*, 5 and 7 June 1918

93. The reason for this is unclear, but it appears that the QMG's office may have simply been too busy managing the crisis and preparing contingencies to make any comments about the German efforts at that time.

94. WO 95/38, *QMG Branch, War Diary, April 1918*, Explanatory Review, April 1918

He went on to emphasise that a British Army needed 1,934 tons of supplies per mile of front per day during an 'ordinary day of intense fighting.'[95] However, the QMG also wrote that food supply to the troops continued to be good, ammunition supply proved satisfactory and serious delays were very rare. This in spite of the fact that the QMG had no real control over the movement of supplies - the separation of transportation from the QMG had proved to be a problem. The QMG needed direct control over the DGT, but the BEF's administrative organization at the time did not allow it.

As Chapters 4, 5 and 6 showed, the abolition of the post of IGC and creation of a DGT eased the BEF's transportation crisis during the latter part of 1916 and set the stage for the offensives of 1917. The DGT's effective subordination to all of the General Staff branches, however, limited the central control of his mandate. In late 1916, the post of DGT had been created in response to the systemic break-down of the transportation system caused by the demands of the Somme Offensive and the inefficiency of the position, though not the person, of the IGC. At that time, the DGT was placed subordinate to none of the General Staff branches, but in the *de facto* control of the QMG. Further, over time, the DGT nearly became, in effect, another IGC. In the summer of 1917, Haig wrote the War Office that, 'the status of the DGT should be regarded as on an equality with that of the AG and QMG.'[96] This threatened a repeat of the errors of the *Field Service Regulations*. Luckily for the BEF, however, the Army Council over-ruled Haig. One of the most important decisions made during the spring or summer of 1918 occurred on 26 June when GHQ placed the DGT under the QMG's *de jure* control.[97] This finally marked the satisfactory completion of the reorganisation begun in late 1916 - the DGT had to be directly subordinate to the branch

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95. Ibid.

96. *BOH(Transportation)*, 195.

97. WO 95/39, *QMG Branch, War Diary, June 1918*, Explanatory Review, June 1918; see also WO 256/33, *Haig, Diary*, 18 July 1918.

of the staff responsible for making the greatest use of his office, otherwise he became a pseudo-IGC.

Following the second of the German offensives, the Allied armies finally had a supreme commander - Ferdinand Foch - of considerable ability and in a position to provide some co-ordination of theatre strategy. This might have presaged some effort to pool supplies, but in the end it did not. In addition, the 'national' character of the front of February had been scrambled, partly from the effort of stemming German success, and partly from sending exhausted British divisions to relatively quiet sectors of the front.[98] In May, Sir Eric Geddes (now First Lord of the Admiralty, but still having a role as an advisor to Haig) wrote the War Cabinet to say that he foresaw, ultimately, 'a cosmopolitan Allied Army with a common basis of supply and a common shipping pool.'[99] Geddes supported this observation by noting that British and French troops on the same feeder lines saw some interchange of supplies during German attacks, and that this had proven an efficient use of available transportation. Further, the practice of moving divisions around 'British to the South, French to the North, Americans everywhere' would, if carried to its logical transportation conclusion, pool all common and interchangeable supplies. Geddes knew that the French desired this, but felt that if done, the British Army would cease to exist from both a transportation, and it must be assumed line of communication, perspective. Geddes professed no opinion one way or the other on the relative desirability of this it would appear, but merely wrote to point out to the War Cabinet where things had headed. Certainly, the idea of one rear area authority had its attractions, but, outside of creating an Inter-Allied

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98. Asprey, *The German High Command*, 374 offers a wonderful description of the pre-offensive front lines resembling 'feudal fiefs ruled by separate barons' - an indication of the friction that existed between the Allied powers.

99. ADM 116/1808, *Memorandum for the War Cabinet by Sir Eric Geddes*, 22 May 1918, letter A/412/a: unless otherwise noted, all references in this paragraph are taken from this source

Supply Board as an advisory body only, neither London nor Washington was likely to allow a true common pool because neither had any desire to reduce the national control of their forces.

Despite the heavy toll of the German offensive, the supply and transportation system continued to function adequately. At the end of June, the QMG wrote that the Germans had worked hard to hinder the delivery of supplies, but that they had not launched a major attack[100] - the combination of casualties, lowered morale, lack of infrastructure in the newly captured areas, lack of a coherent plan, and the like meant that they could not support another one on the British front.[101] The German interdiction efforts targeted base ports, depots and lateral line constrictions and caused a great deal of inconvenience, but never managed to stop the flow of supplies. When the additional complication of the influenza epidemic is added in, the BEF received a lucky break when the Germans did not attempt another major assault. The QMG remained anxious because the Germans were obviously trying to pinch supply lines and there was an insufficient margin of safety.[102] However, in April, May and June, the two lines of communication issued 658,248 tons of ammunition to the troops. Even with heavy use and German interdiction efforts, this ammunition reached the troops. In addition, the BEF received and handled 769,442 tons of ammunition in the base ports

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100. WO 95/39, *QMG Branch, War Diary, June 1918*, Explanatory Review, June 1918

101. In fact, the German Army had launched major efforts against the French and Americans on 27 May (Operation *Blücher* on the Chemin des Dames) and 9 June (Operation *Gneisenau* directed at Noyon). See Asprey, *The German High Command*, 411-30 passim.

102. WO 95/39, *QMG Branch, War Diary, June 1918*, Explanatory Review, June 1918

and ammunition depots, so their total stocks actually increased over the period of the German offensives in spite of all efforts to hinder supplies.[103]

By July, the German offensives had clearly petered out. On the whole, it appears that the various advances had moved forward so rapidly that the infantry outran much of their artillery support and railheads. This had inflated the casualties when the British, falling back on their supply lines, could use their artillery largely unhindered by German guns; and slowed German attacks as their troops fell to looting British dumps when they discovered how well the BEF had been supplied.[104] Finally, what German artillery got forward lacked shells. On 25 March, for example, one German Corps had been forced to reduce its ammunition consumption by half due to a shortage of shells - shades of the BEF in 1915. The German attacks, lacking strategic direction, had succeeded in capturing some 1,200 square miles of territory due primarily to the relatively sophisticated tactics employed by their infantry. However, much of this merely represented the recapture of large tracts of land that the German High Command had willingly abandoned the year before, just prior to Arras - a strategic calamity since it retained little value, certainly no more than it had possessed prior to its abandonment.[105]

As a result of the obvious lack of German capacity to continue offensive action, the QMG began to plan for the contingency of a withdrawal by the Germans to the Hindenburg Line. They had done it in 1917 and could reasonably be expected to do so again and, as a result, in British eyes, 'the problem of effective pursuit will be largely

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103. WO 95/59, *Director of Ordnance Services, War Diary, August 1918*, 2 August 1918

104. Asprey, *The German High Command*, 385-6.

105. Wilson, *Myriad Faces of War*, 561, 563-4.

one of Supplies and Transport.'[106] The goal was to try to arrive at the Hindenburg Line as close on the heels of the Germans as possible. However, no withdrawal occurred, and the Allied counter-offensives began in July with a French attack on the south of the salient created by *Blücher* and a smaller attack by the Australians at Hamel.[107] Hamel represents the first incidence of the newer British style of set-piece attack in 1918, where troop density had decreased under the artillery umbrella - materiel had begun to replace man-power to as great an extent as possible in British operations.[108] July also saw the innovative step of the BEF reducing the stocks of a number of stores, particularly Engineering Stores, in France. The War Office undertook to assure the Director of Engineering Stores that stores would be held in the United Kingdom and that these would 'arrive in France within 14 days of a shipment indent.'[109] This reduced the demand on the shipping of a number of items to 'on need' rather than to the maintenance of a twenty-one day reserve and could be managed because of the dramatic improvement in the capacity of the British base ports - the result of Geddes's willingness to spend money in 1916 and early 1917. As a result, the United Kingdom became, in effect, an extended base port for a number of classes of the BEF's supply.

In August, the QMG looked back on the trials of the spring and made the ironic observation that they had helped to prepare the BEF's administrative services for the advances of the summer, because they had forced them to deal with a return to

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106. WO 95/39, *QMG Branch, War Diary, July 1918*, Explanatory Review, July 1918

107. See Asprey, *The German High Command*, 434-43 for a description of Ludendorff's last gasp (Operation *Marneschutz und Rheims*) launched on 15 July and Foch's counter-stroke that began three days later.

108. Prior and Wilson, *Command on the Western Front*, 291.

109. WO 95/56, *Director of Engineering Stores, War Diary, July 1918*, n.d. July 1918

mobility. These began in earnest for the BEF on 8 August when the Australian and Canadian Corps spearheaded an assault by Fourth Army (Rawlinson) which eased the pressure on the lateral line at Amiens. Other sites might have been chosen, but the weak nature of the German defence and the importance of Amiens' marshalling yards made the location of the attack a wise one. This attack required quite an administrative effort, as the entire Canadian Corps (four strong divisions, and extra Corps artillery assets) had to be moved from First Army (Horne) to Fourth Army in ten days with absolute secrecy. The BEF also deceived the Germans as to the actual front of the attack. The attack proved a complete operational success and once it began to peter out, around 13 August, Haig made the strategic decision to change the axis of the BEF's attacks. By the end of August, the Canadian Corps had been returned to First Army and begun offensive operations on the Scarpe River. In 1916, Haig could not have so easily switched the axis of his attacks, but the administrative excellence brought about by four years of hard-won experience made it a relatively simple matter by 1918. The advances in August had been well supported, and a policy adopted on 27 August of concentrating on the advance of broad gauge railways and roads had worked well.[110] By August 1918, all types of ammunition, with the exception of 6" howitzers, remained readily available, and the problems of previous years with bad fuses and high explosives no longer caused serious problems.[111]

September proved a difficult month for the BEF, as the continued advance threw an increasing strain on the lines of communication, but the supply lines proved able to bear the strain. Bad weather slowed shipments to France, and the further the BEF advanced from their base ports, the more the 'logistic equaliser' came into play. In addition, the enormous demands of formations in the fighting made this equaliser

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110. WO 95/39, *QMG Branch, War Diary, August 1918*, Explanatory Review, August 1918; 27 August 1918

111. *BOH(1918, 5)*, 595.

even more pronounced. For example, the first three days of the operations which forced the Canal du Nord (27 to 29 September) saw the expenditure of 62,813 tons of ammunition, an average of 20,937 tons per day.[112] The QMG had to handle this extra demand with a serious shortage of rolling stock.[113] The final complication was the extra strain placed on the larger ports on the southern line of communications by the need to supply the American Expeditionary Force - the smaller northern ports were not as suitable for supplying British needs in full - and the need to feed large numbers of liberated civilians.[114]

In spite of British successes on the battlefield, the German Army, when forced to retire, did so in a relatively methodical fashion and did considerable damage to the infrastructure that the BEF needed to maintain their advance. As late as 10 October, GHQ remained sceptical of any German desire for peace, G P Dawnay writing, 'The first sign of a *real* desire for peace on the part of the Germans will, in my opinion, be withdrawals *without devastation*.'[115] Clearly, the Germans continued to substantively damage roads, railways and the like even while being forced back by the BEF. In spite of 'devastation' the transport services continued to get supplies forward so the advance could be maintained. This attracted praise from Dawnay in his position on the operations side of GHQ, though without any apparent appreciation of just what had been done.[116]

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112. WO 95/40, *QMG Branch, War Diary, September 1918*, Explanatory Review, September 1918

113. Ibid., 19 September 1918

114. Ibid., Explanatory Review, September 1918

115. G P Dawnay to his wife, 10 October 1918, Dawnay Papers 69/21/3, IWM. Emphasis in original.

116. G P Dawnay to his wife, 30 October 1918, Dawnay Papers 69/23/1, IWM

An idea of the power of British and Allied administrative superiority can be gained from the offensives launched in late September 1918 where British supply lines proved capable of simultaneously supplying multiple armies with the means to carry out the new material-heavy operational offensive system. After the pause which followed the advances in August and early September, the Allied powers launched a series of concentric offensives. The first, involving the U S First Army and French Fourth Army opened on the 26th; the second, that of First and Third Armies on the Canal du Nord (mentioned above), on the 27th; the third, by the Groupe d'Armées des Flandres, on the 28th; and the fourth, by Fourth Army and French First Army, on the 29th.[117] GHQ faced the task of providing support for these armies at the end of supply lines stretched by the advances of the previous month - a very difficult task. Moreover, these attacks had become far more materiel-intensive. The BEF had begun to use carefully planned set-piece attacks with limited objectives and massive artillery support as their standard operational system, indeed:

> The British were now employing such massive quantities of artillery in so co-ordinated and skilful a manner that it is not certain that any defensive positions could have withstood them.[118]

For example, for the assault of Fourth Army on the Hindenburg Line on 27 September, Rawlinson:

> had more than doubled the weight of heavy shell fired at Amiens - 27.5 million pounds would now be fired as against 12.7 million pounds on 8 August ... to suppress the enemy's guns, to smash down the banks of the St Quentin Canal, to destroy or neutralise the larger German dugouts by blocking their exits, and to destroy strategically placed machine-gun posts, command centres, and communications systems. The Fourth Army planners were ensuring that the operation would not fail through insufficiency of shell.[119]

This had become common throughout the BEF, and is reflected in the large expenditure of ammunition in 1918, as Figures 7:1, 7:2 and 7:3 illustrate.

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117. *BOH(1918, 5)*, 7.

118. Prior and Wilson, *Command on the Western Front*, 350.

119. Ibid., 365.

Much of the simultaneity of the attacks only became possible as a result of the unification of Allied command under Foch, however. After his appointment:

> large scale strategical [sic] movements became common. French corps were moved to and from the British area, British corps were moved to and from the French area, and reserve armies composed of British, French, Americans and Italians were assembled from time to time and place to place as the situation demanded.[120]

Such strategic power, brought about by a considerable quantity of vehicular pooling, led to a marked Allied superiority in late 1918. In spite of their interior lines of communication, the Germans could not cope with the counter-offensives launched in rapid succession in late September, and indeed throughout the summer and autumn.

The serious logistic strain continued in October, as all British Armies remained active and advancing. Indeed, the faster the Germans retired, the harder it became for the BEF to keep up.[121] This caused considerable angst amongst the commanders chasing the Germans, as can be seen in Lieutenant-General Sir A W Currie's (GOC, Canadian Corps) diary entry of 20 October. He wrote:

> ... the fact remains that the enemy is making a very orderly and practically unmolested retirement. Our trouble is that the troops are very tired and that the getting forward of supplies is becoming very difficult owing to the distance away of railheads.[122]

This came about because:

> ... behind Haig's armies lay a wilderness. Backing his northernmost forces, in this rain-drenched season of the year, was the dreaded Flanders quagmire. As for his more southerly armies, to their rear lay a region desolated by numerous great battles and two German withdrawals.[123]

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120. *BOH(Transportation)*, 397.

121. WO 95/40, *QMG Branch, War Diary, October 1918*, Explanatory Review, October 1918

122. *Sir Arthur W Currie, Diary*, 20 October 1918, General Sir A W Currie Papers, MG30 E100 Volume 42, National Archives of Canada

123. Wilson, *Myriad Faces of War*, 604.

In addition, the light railways, because of the decision to concentrate on broad gauge railway wherever possible, had ceased to play a role in supplies' movement and been left behind while motorised transport again took up the slack. This led to the break down of both machines and drivers, though the troops never suffered a serious lack of food, and ammunition remained plentiful at railheads. However, once it was moved forward and dumped, problems began, because artillery batteries advanced rapidly to stay in touch with the infantry.[124] As a result, numerous small dumps of ammunition remained throughout the British rear areas which had to be collected and forwarded again. This all combined to frustrate aggressive field commanders like Currie.

In regard to the difficulties placed on the lines of communication, Travers Clarke wrote Cowans on 6 October that, 'things are going well out here, but our department is stretched to the utmost; however, thanks to your help we have got all we want, and the troops are being very well catered to in every way.'[125] A measure of this was the QMG's report to Cowans that:

> The Americans have come and paid us a visit and opened their eyes with wonder at the efficiency as they term it of our methods. In their rear area the roads are so blocked and their plan of getting supplies of all descriptions to the troops so confused that very little arrives at its destination. Still, they are making a little headway in their area but have a weight of strength rather wasted.[126]

The BEF maintained a dogged, though unspectacular pursuit of the Germans. This denied the retreating troops the time to prepare defensive positions of any great strength. This ability to conduct such a pursuit, despite all of the administrative hurdles, reveals the superb nature of the British supply and transportation system and the high standards of professionalism therein.[127]

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124. WO 95/40, *QMG Branch, War Diary, October 1918*, Explanatory Review, October 1918

125. WO 107/16, Travers Clarke to Cowans, 6 October 1918

126. Ibid.

127. Wilson, *Myriad Faces of War*, 604.

Until the Armistice came into effect at 11:00 A M on 11 November, the strain on the road and rail transport services remained immense. After that point, the administrative demands changed entirely. The BEF's administrative echelons suddenly had to deal with the questions surrounding the supply of the armies earmarked for the occupation of the Rhineland.[128] The armies of occupation had to be moved to the occupied zone, potentially large numbers of destitute civilians had to be cared for, and generous plans had to be made for returning British troops released by the Germans. Orders for military stores from England had to be cancelled and plans for the Army's maintenance revised. Provision had to be made for rapid demobilisation, even if only partial, which would add additional strain to the system. Finally, the QMG's Branch would have to be reorganised to supply two armies in Germany and the armies remaining behind in France and Belgium.

As a result of the immediately reduced demands for ammunition, defence stores and other materiel of war, which amounted to roughly a third of the rail traffic, it might be expected that the situation would ease.[129] In fact, given their distance beyond railheads, and the amount of repair work to be done, the supply services could not maintain the armies in Germany. The overland portion of the supply chain ran from the French channel ports into Germany over a rail network which became increasingly damaged closer the final armistice line. While repairs had been accomplished they had to take place from the rear areas to the front lines. Such a supply line was an impractical route, but one which could not be improved on until repair work had been carried out on railways and Belgian ports put into use. The worsening shortage of railway trucks, the reduced efficiency of labour brought about by a celebratory mood, and the return to civilian needs of more trucks caused great difficulty. While the

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128. WO 95/40, *QMG Branch, War Diary, November 1918*, Explanatory Review, November 1918

129. Ibid., Explanatory Review, November 1918

armistice, 'did not find the administrative authorities unprepared,'[130] until the terms became known, the transportation situation could not be predicted. The Director of Railway Transport and QMG felt that, based on the availability of 60,000 wagons, 40 divisions could be supplied during active operations on the German border. In theory, then, there should have been no great difficulty under an armistice - based on needs of roughly two trains per division per day. The QMG guessed that 40,000 of the wagons would suffice under the armistice, leaving the balance for civilian traffic. However, if the fighting flared again, the surplus could not be spared. The immediate difficulty, however, would be bridging the rail gap created in the inter-army gap.

Q Branch favoured advancing until the supply situation proved difficult, then stopping and waiting for the railways to be repaired over the gap.[131] This would create a delay while engineers made repairs. The limited amount of available motorised transport hindered this plan. The other plans were more dangerous. The first called for the road system to provide the main supply line for the troops - GHQ hoped that a forty-mile advance could be sustained. Heavy traffic would have caused serious problems as roads deteriorated, but heavy traffic would have been unavoidable. The second plan was to re-rail the troops and supplies over the gap. The German withdrawal complicated this. Clearly Q Branch's favoured plan was the best, though perhaps not the politically desirable one. Ultimately, of course, a compromise had to be adopted. The policy of occupying eastern Belgium and western Germany as soon as possible demanded an early advance. The BEF had to advance some 100 miles, and GHQ decided to accomplish this in three stages. The first stage, of 20 miles, involved road haulage of up to 50 miles from the railheads. Over-all, however, the BEF found this to be too ambitious for the 32 divisions involved, and it forced GHQ to decide to leave roughly half behind temporarily. The BEF had the goal of maximising the use of

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130. Ibid., Explanatory Review, November 1918

131. Ibid., Explanatory Review, November 1918

their available motorised transport,[132] but the task of feeding the occupying armies would be a very difficult one.

The German assaults in March and April caused the BEF tremendous difficulty - both administrative and military. While Q Branch worked out a number of desperate contingency plans to prepare for anything up to and including outright evacuation none had to be used and the German offensives collapsed, in large measure, due to German logistic and operational failings. The German advances forced the BEF into a large program of railway construction and reconstruction, as Amiens and Hazebrouck were directly threatened by German shell-fire. This resulted in a rear area rail system far more flexible than it had been in March. The continual work on the railways meant much improved cross-railhead and cross-Army communicative capability. When combined with the pooling of motorised transport and the subordination of the DGT to the QMG, this resulted in a system capable of simultaneously supporting large offensives by multiple armies. After 8 August, the BEF constantly pressed forward. In conjunction with the French, Belgians and Americans, a series of counter-attacks left the Germans incapable of doing more than slowing down an inexorable Allied advance. In this advance, the BEF played a major, if not the major role. All British armies were involved in offensive operations until the Armistice. This became possible due to the system which evolved out of the *Field Service Regulations* of 1912, the ad hocism of 1915-16, the rationalization of the transportation in 1916, the fine tuning of June 1918, and the inherent pragmatism exhibited on a continual basis in British administrative appointments. Paradoxically, the BEF was entering a period which would prove more difficult than the war. The demobilisation of the BEF, and the support of the occupying armies in the Rhineland, in the face of countries desperate to return to a state of peacetime normality and reconstruction meant that the BEF's remaining administration would have a hard ride in 1919.

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132. Ibid., Explanatory Review, November 1918

Figure 7:1
Field Artillery Usage, 1918

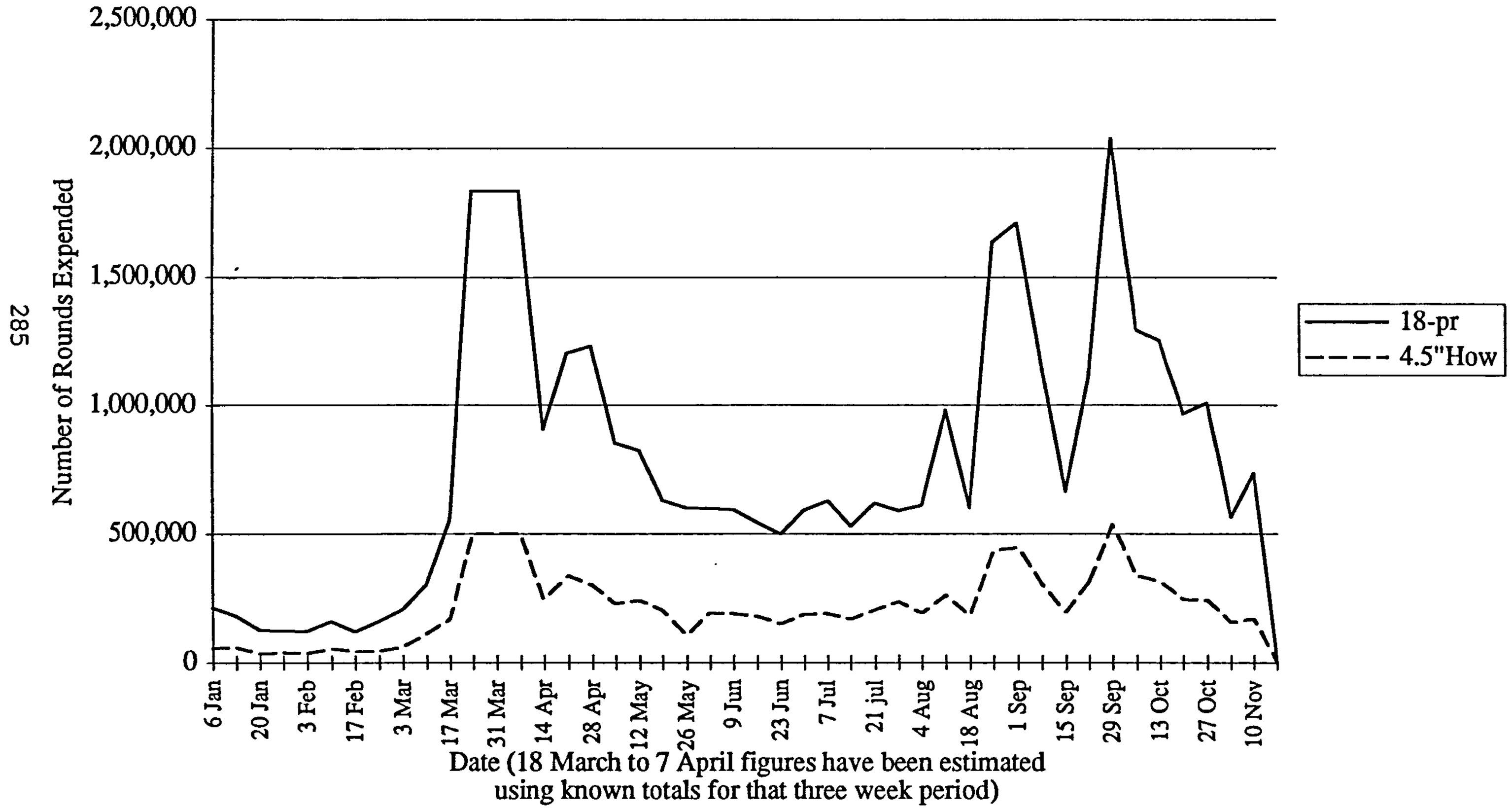
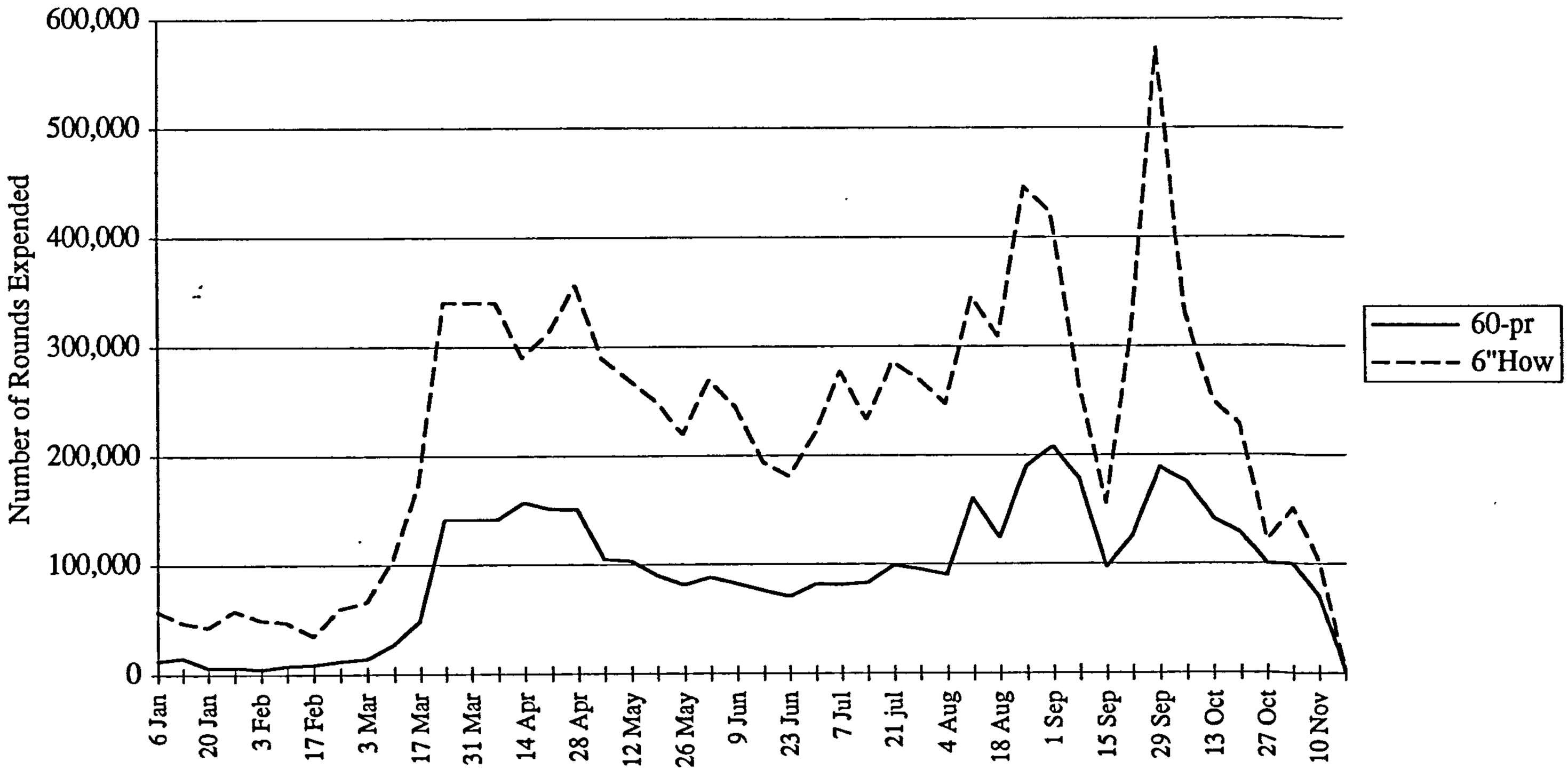
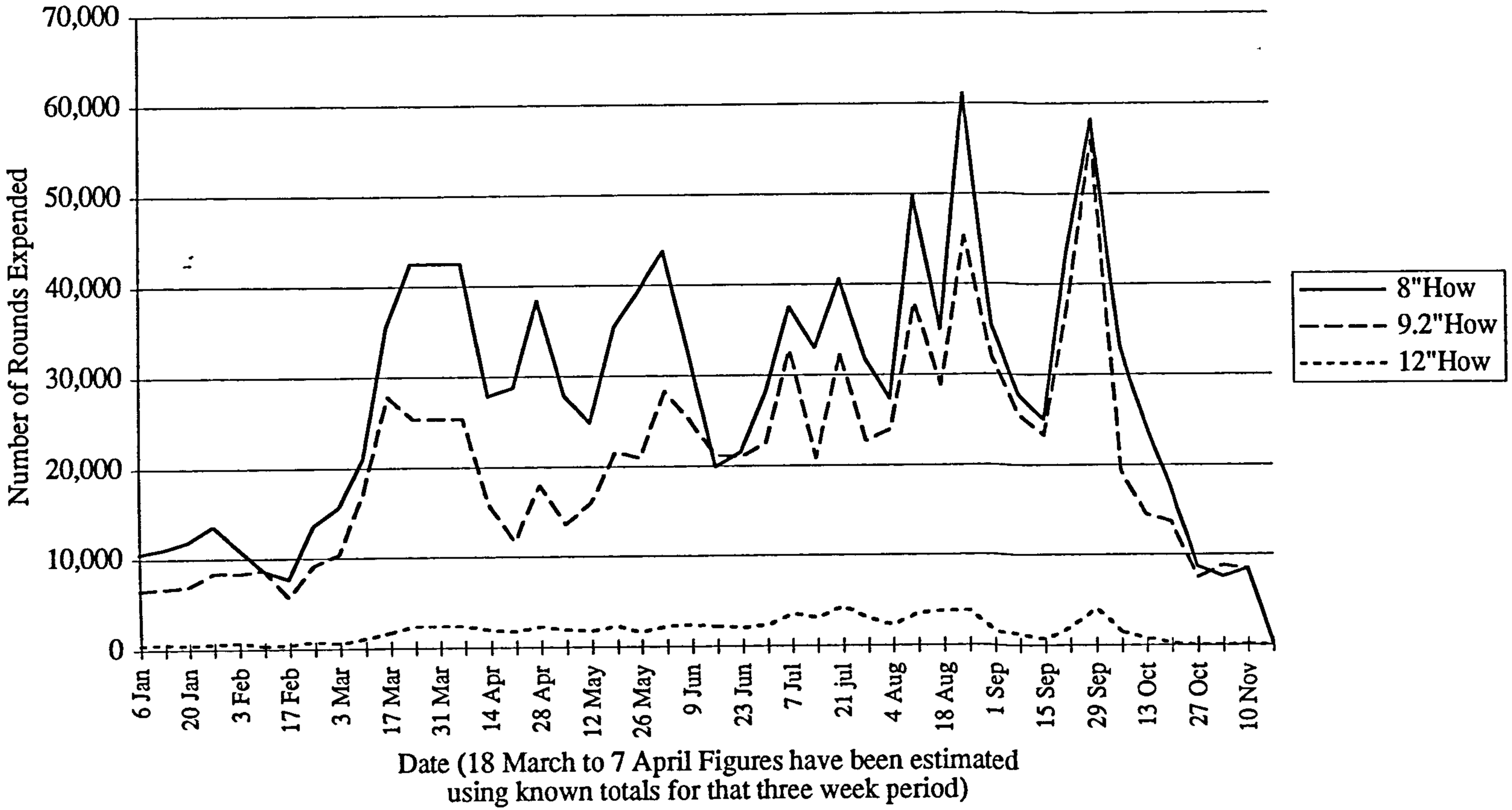


Figure 7:2
Heavy (Medium) Artillery Usage, 1918



Date (18 March to 7 April figures have been estimated using known totals for that three week period)

Figure 7:3
Heavy Artillery Usage, 1918



Date (18 March to 7 April Figures have been estimated using known totals for that three week period)

Chapter 8

Failure?

The System Breaks Down:

After the Armistice

Between August 1914 and November 1918 GHQ had created, recreated and successfully administered a superb support structure for the BEF. This came apart almost as soon as the Armistice went into effect, and GHQ, Haig and his administrators could do nothing about it. With the Armistice, military operations ceased, governments looked to recovery and, most importantly, the rail systems of northwest France and Belgium returned to civil control. GHQ had to cope with the occupation of Germany, the demobilisation of the BEF and the continued care of all these troops over a widely dispersed territory without the control of railways that had been enjoyed during active operations. Further, they knew that an Armistice represents only a temporary cessation of hostilities - it is not a peace. That they coped is a tribute to the officers and men who ran the system.

The signing of an Armistice at 5:00 A.M. on 11 November 1918 brought an end to the fighting of the Great War six hours later, at least temporarily. It did not, however, end the War. That task, in the form of a peace treaty, had to be accomplished by representatives of the combatant powers' governments, and not by the allied military leaders who had forced the Central Powers into the position they faced - whether to continue fighting with the prospect of the occupation of Germany, or to come to terms. Difficulties faced by the armies still in the field during the talks have been largely ignored. Indeed, only two relatively obscure volumes of the Official History cover this episode of the War - one in passing and the other in some detail focusing, as it does, on

the British Rhineland occupation force.[1] In many ways, the tasks of British administrators became more complex after the Armistice came into effect than it had been during the fighting. Britain, France and Belgium, indeed all combatants, exhibited a great desire for the normalisation of affairs. From the point of view of the BEF this mandated rapid demobilisation and the return of the French and Belgian transportation systems to civil and commercial traffic. It also meant that men and soldiers with specialised peacetime skills not required on those transportation networks be demobilised first. This contrived to further increase the difficulties facing the BEF's administration because they now had to treat civil concerns with far more care and attention than had been required during the fighting. Demobilising a vast continental army proved no easier than creating one in the first place. Following the demobilisation and the ultimate end of the war by the Treaty of Versailles, the British Army settled back into a peacetime routine where they came to grips with the multitude of changes forced on their administration by the war. While the *Field Service Regulations* of 1912 still governed operations, if necessary, the war and the changes made to the British administration during the fighting left the need for a revision to those regulations.

The Armistice, which came into effect at 11:00 A.M. on 11 November, contained a number of conditions to which Germany became bound and which directly affected the administration of the BEF. These included the evacuation of Belgium,

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1. The occupation of the Rhineland, particularly the British contribution, has not been particularly well studied and the studies that exist do not generally focus on the military side of things. *BOH(Transportation)* covers the difficulty of advancing to the Rhine in passing. James Edmonds's *The Occupation of the Rhineland* (London: His Majesty's Stationery Office, 1944; reprinted in 1987) fell foul of the Foreign Office when published, and did not get released until 1987, though it covers the whole problem in considerable detail. Otherwise, the occupation receives passing mention in works such as G W L Nicholson, *Canadian Expeditionary Force, 1914-1919* (Ottawa 1964) a national history of the Canadian effort during the war and, as the Canadians fell under British administration and command, Nicholson does not refer in any detail to the administration of the BEF or BAOR. The best current source for the whole period is David G Williamson, *The British in Germany 1918-1930: The Reluctant Occupiers* (Oxford: Berg, 1991) though his coverage of the military problems between 11 November 1918 and 28 June 1919 is, of necessity, limited.

France, Luxembourg and Alsace-Lorraine by 26 November; the creation of a neutral zone in the Rhineland; the surrender of arms; and, perhaps most importantly, the surrender of large quantities of rolling stock.[2] The Allies required 5,000 locomotives and 150,000 wagons to ease the tremendous strain faced on the various lines of communication caused by the proposed occupation of the Rhineland. The BEF's administration had, thus, to prepare to occupy territory abandoned by the Germans, to receive and handle surrendered arms and materiel without taking what had originally been French or Belgian property, and to receive and use locomotives and rolling stock.

When the fighting ceased, the BEF initially planned to occupy their portion of the Rhineland with two armies (Second and Fourth), leaving the rest roughly where they had stopped on 11 November. This meant supplying eight corps and thirty-two infantry divisions at an extended distance from ports and railheads. Administratively, this could not be done for two main reasons. First, the boundary zone where the British and German armies had met formed a devastated area up to twenty kilometres in depth where the transportation infrastructure had been severely damaged by the fighting and by the efforts of German rear guards to deny the infrastructure to the BEF. This mandated a great deal of costly and time consuming repair. Secondly, the BEF had been operating through much of October and November at increasing distances from both railheads and base ports. (See Map 8:1 for an illustration of the railhead locations in October, November and December.) In spite of tremendous efforts at repairing damaged and destroyed railway lines, and the very effective use of motorised transport to fill some of the gap, the BEF had practically reached its administrative limit. Indeed, it is doubtful how much longer an advance could have been sustained had hostilities continued.

The BEF followed a sound and coherent policy in regard to re-opening lines across the inter-army gap - formerly referred to as 'no-man's-land.' Almost

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2. *Statistics*, 724-725.

immediately upon the Armistice, railway construction ceased in rear areas, and the assets freed began work on three main routes across the gap - ultimately, reconnaissance led to an additional (fourth) route being chosen. In addition, the BEF undertook to repair such lines as requested by Belgian authorities, where good reasons could be shown. For example, the QMG agreed to re-open lines which served the mining districts and those that moved coal to Brussels. At this point, however, the demobilization of the Canadian Railway Contingent caused the QMG to re-emphasize work needed to supply British armies. The damage to the various means of communication in Belgium proved a severe handicap to the allies. German railway personnel abandoned their posts on the Belgian railways, and Belgian personnel did not know the extent of the damage to the rail net. Therefore, the BEF's administration had no concrete ideas of what kind of supply system could be maintained in forward areas.

A measure of the difficulties faced by British administrators can be had from A M Henniker's description in the British Official History:

> Communication by telegraph or telephone across the devastated area hardly existed; the only way to obtain information and circulate instructions was by motor-car and despatch rider, and lack of petrol in Belgium at times brought these to a standstill. Two or three weeks were required to ascertain the position ... Meanwhile, the armies of the Allies had advanced across Belgium while the communications were still in a state of disorganization.[3]

Given that telegraph and telephone lines are far more easily handled than road or railway beds, the challenge to administrators must have been extreme. They had to improvise on a scale never experienced before. While improvisation had proven successful in 1914-15, Travers Clarke faced a problem an order of magnitude greater - supplying five armies at extended distances from port and railhead with two of them on the move over land lines of communication two to three times the length faced in 1914-15 is clearly an enormous task. Further complicating matters, a regular passenger service had been reinstated between Paris, Boulogne, Calais, Lille and Brussels. These

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3. *BOH(Transportation)*, 466.

trains, moving faster than troop or supply trains, had priority on the lines they used, and this meant that the smooth system of moving supply trains that had developed during the war suffered. The passenger trains interrupted regular military services and meant that timings for military trains could no longer be as reliable as they had been in late 1917 and 1918. Further, even when carefully predicted, one late running passenger train could dramatically disrupt schedules. The lack of lines over the inter-army gap exacerbated the problems when civilian trains ran to Lille or Brussels, and increased the load placed on the BEF's already strained motorised transport echelons.

A measure of the BEF's difficulty in supplying the troops on the march to the Rhine can be had from the example of the Canadian Corps. This Corps had been assigned to Second Army for the Rhineland occupation, and Corps headquarters issued orders for the move by 16 November.[4] By 23 November, the plans for the advance had been amended, and the decision made by GHQ that only Second Army could advance:

> This amendment was made necessary by the difficulty of bringing forward the necessary supplies owing to the thorough destruction of railways and roads in the battle areas, and the immense amount of work required to effect temporary repairs sufficient to take care of the needs of the Army and of the Belgian population.

Weather and the deterioration of resupply forced the Corps to halt on 26 November. Daily rains, which began on that day, combined with the heavy traffic led to a serious deterioration of the road conditions and compelled the Corps to restrict itself to first-class roads, rather than use side roads. The march on the 27th proved a very trying one for the troops because of the traffic and mud, and reduced the first-class roads to a poor condition. This all conspired to make resupply very tenuous:

> [The] railhead was still west of Valenciennes, necessitating a haul of over 100 miles by road to the leading troops, and mention has already been made of the congestion of traffic on the roads. As a result,

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4. Unless otherwise noted, all references to the Canadian Corps and the Rhineland occupation are from Lieutenant-General Sir A W Currie, *Canadian Corps Operations During the Year 1918, Interim Report* (Ottawa: Department of Militia and Defence, 1919), 86-93.

> supplies had been reaching the Units later each day, and the safety margin ordinarily maintained, of one day's rations in hand, had been lost. The climax was reached on November 28th, when rations for that day were received just as the day's march was commencing - in fact some of the Units of the 1st Canadian Division had already passed the starting-point. As the same situation recurred on the 29th, it was necessary to cancel the march of the 1st Canadian Division for that day.

Currie's administrative staff coped by utilizing the lorries of the Canadian Machine Gun Corps to bolster the movement of supplies. This allowed the march to continue on the 30th. The final stages of the Corps' march to Cologne took place between 4 and 12 December in bad weather and 'without incident or trouble other than that of supplies.' (See Map 8:2)[5] The two divisions of the Canadian Corps which occupied their section of the Rhineland had taken nearly one month to advance some eighty to ninety miles, and only the strenuous efforts of the rear area services had allowed its completion. It must be assumed that other British formations had similar problems. Clearly, the BEF could not have remained, by December, the same efficient fighting formation that it had been on 11 November. However, an armistice meant that some offensive capability had to be maintained.

Euphoric stories in the Press and unrealistically optimistic promises by politicians got the demobilisation off to a bad start, and the Army on the continent came to believe that the 'false start is the basis of all our difficulties.' [6] This caused further problems for the BEF by increasing the expectations of the population in Britain without indicating the extent of the difficulties faced on the continent. The QMG's greatest problem, however, had become the feeding and continued supply of British formations in France, Belgium and the Rhineland over rail lines in host countries desperate to return to civilian trade and traffic. The Armistice meant that the notional

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5. Map 8:2 is based on Currie, *Interim Report*, Sketch 13: it gives an idea of how much further it was to the Rhine than had been covered during the offensive operations of mid to late 1918.

6. *'Demobilization,'* early January 1919, G P Dawnay Papers, 69/21/4, IWM

preference of military traffic did not get applied in practice. In particular, civilian passenger trains, which ran at considerably faster speeds than military troop trains, tended to get preference and interfered with the practices of the war on the railways.[7] This greatly hindered the BEF's and British Army of the Rhine's administration. Haig wrote in early 1919:

> My opinion of the railway situation is that the French Gov[ernmen]t is now running too many *civilian* trains, and fast expresses, and that consequently our military traffic is suffering. The French railways at present are under manned, and a large number of lines in this part of France are still in an indifferent state of repair as the result of the war. ... I do not admit for a moment that my Transportation branch is at fault. They do all that the French rail[roa]d people ask them to do. And the manner in which broken railway lines, telegraphs, stations etc. etc. have been repaired, and traffic handled under most difficult conditions is beyond all praise.[8]

The problem must have been grave, for Haig wanted a government delegation to come out to France and speak with the French minister for railways on this matter. Haig, however, did not enjoy great influence with David Lloyd George's government after the Armistice, and he had little sway, as a result, in Paris.

By 1 January 1919, some 100,000 British soldiers whose trades were needed at home had been demobilised from the BEF. These included engineers, builders, miners, and farmers, but not railway personnel. However, many of those demobilised could have helped matters on the lines of communications had they been retained until demobilisation had got further along. The plans drawn up as early as late 1916 proved useful guides for what was to come. The decision had been made early on that the transportation system and demobilisation centres could not be expected to handle more than 50,000 men per week. This meant that the men could be reintroduced to Britain with some semblance of care and cleanliness at a rate which did not over-tax the diminished transportation capacity. However, politics intervened, Lloyd George

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7. *BOH(Transportation)*, 466-7.

8. Haig to Wilson, 11 January 1919, Wilson Papers, HHW2/7, IWM. Emphasis in original.

bowed to pressure and did his best to speed up the process of demobilisation, thus causing considerable difficulty for the War Office.[9] For the men waiting to be demobilised, Lloyd George's interference exacerbated problems and caused resentment, strikes and other difficulties. Morale plummeted, and the lines of communications must have suffered as a result.[10]

The difficulty of demobilising a two million man expeditionary force which included two national armies (Australian and Canadian) requiring long distance shipping proved enormous. When the demobilisation of the American Expeditionary Forces' two million men, almost all of whom had to be moved to America, is added in, the problem became even more complex. As of 1 October 1918, the British Army in all overseas theatres, including Dominion troops and Indian Army troops serving outside of India, came to 2,931,560 men, the majority of these with the BEF. Six months later, on 1 April 1919, 1.45 million of those had been demobilized and the total size of the British Army at home and abroad had dropped to nearly half what it had been the previous October.[11] Some 900,000 of those demobilized came from the BEF (see Figures 8:1 and 8:2), and this further taxed the transportation system, since these men had to be moved and supplied while such remained unreliable for stationary formations, and no guarantee of a final end to hostilities existed.

From a military perspective, and generally ignored, Clause F (section 34) of the Armistice is most important. It read:

> The duration of the Armistice is to be 36 days, with option to extend. During this period, on failure of execution of any of the above clauses,

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9. Williamson, *British in Germany*, 33.

10. It is beyond the scope of this study to go into the details of the various strikes and other signs of unrest. These are documented in Andrew Rothstein, *The Soldiers' Strikes of 1919* (London: The Macmillan Press Ltd, 1980).

11. WO 33/932, *Report on Account of Army Expenditure, 1917-1922*, 4

> the Armistice may be repudiated by one of the contracting parties on 48 hours previous notice.[12]

While the Armistice did, as it turned out, ultimately end hostilities, this could not be guaranteed at the time and its signing did not mark the end of the war. Indeed, with the Armistice's validity only holding for thirty-six days, it had to be extended. The various parties signed extensions on 13 December, 16 January, and 16 February with a further protocol added on 4 April. The need to continually extend the Armistice created uncertainty, and this uncertainty left the BEF's administration in an invidious position. The British government had promised rapid demobilisation, but two million men took considerable time to return to civilian life. Further, they still had to be maintained in the field whilst waiting for demobilisation, and two armies in the Rhineland needed to be fed at the end of supply lines which still stretched to the channel ports.

In fact, the commanders of the Rhineland occupation force had to face the very real prospect that the German government would not accept the terms presented at Versailles. In late May, 'Wully' Robertson (GOC, BAOR) let Henry Wilson (CIGS) at Versailles know that he needed more railway personnel, clearly because of uncertainty about permanent peace. If Robertson had to face renewed hostilities, he needed the logistic capability to support his army in offensive operations. Wilson responded with an overview of the situation on 5 June, writing:

> My own opinion is that when two people want to sign a paper as much as do the Allies and the Boches it will take more than all the Powers in all the Capitals to prevent it. Therefore I personally think there is very little chance indeed of your having to move forward [to Berlin]. It is because of this that I keep on refusing to allow you to have the railway personnel etc. from France which you otherwise would undoubtedly require.[13]

In this, Wilson held similar views to those of Lloyd George, who wrote after the War of a meeting at Versailles of the British Empire and Dominion representatives at

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12. *Statistics*, 727.

13. Wilson to Robertson, 5 June 1919, Wilson Papers, HHW2/1, IWM

Versailles who apparently all felt some apprehension should the Germans refuse to sign the Treaty. The Prime Minister wrote:

> Some speakers went so far as to insinuate that such was the French hatred of Germany, that they were hoping that such a refusal would be provoked by the harshness of the Treaty in order to justify a military occupation of the German capital. I was convinced at the time - and still am - that no responsible Frenchman had that thought in his mind. ... But the apprehension of a refusal to sign undoubtedly influenced some of the speakers at this Cabinet Conference.[14]

However, 'very little' still implied that Robertson faced some chance of having to renew offensive operations, slim though it might have been. Robertson replied in such a way as to leave Wilson in no doubt about his limited capabilities writing:

> What you say about the possibility of a further advance is what I expected; at the same time, a week or two ago Foch seemed very busy, and as you will remember, you also telegraphed me to get ready. I cannot get ready unless I am given the means, nor can I get ready at a moment's notice. So long as this is understood I shall be satisfied, and will do my best to conform to what is required of me.[15]

Indeed, Foch had been busy, as Allied leaders had instructed him to be ready to advance into Germany after 27 May - anticipating a possible rejection of terms presented to the Germans on 7 May.[16] A week later, Wilson was able to give Robertson a date after which he would know about possible military action, but this also included a line which read, 'I am writing to the War Office to inform them of this [the date] and to tell them to let Asser know he may have to send you up the railway personnel at short notice.' [17] In his next letter, Wilson enclosed an appreciation which he had sent to the Prime Minister on 16 June. In part, this read:

> I think that our force of 39 Divisions is enough to accomplish the operation you wish carried out, viz the march on and the occupation of the Capital [Berlin], but if such a manoeuvre is not instantly successful

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14. David Lloyd George, *Memoirs of the Peace Conference* Volume I (New York: Howard Fertig, 1972), 466.

15. Robertson to Wilson, 6 June 1919, Wilson Papers, HHW2/1, IWM

16. Williamson, *British in Germany*, 36.

17. Wilson to Robertson, 13 June 1919, Wilson Papers, HHW2/1, IWM

> in attaining your object I would be very anxious indeed as to what might follow.[18]

Clearly, and in spite of what civilians would have liked to believe, for Robertson and the remaining commanders and staff officers of the BEF and BAOR, the war could not end until the Treaty had been signed by the Germans. This occurred on 28 June 1919, and only then could Robertson put plans for the resumption of hostilities on the shelf and really get down to the business of final demobilization and to the analysis of the war with an idea to the future. The British Army realised quite well the difficulties they had faced after the Armistice. On the question of why the allied armies did not simply advance to Berlin and dictate terms, the accepted answer, and the correct one, remained:

> Because such an army could not have been maintained during its advance. It was with the utmost difficulty that the force that did go forward was fed until the railway system could be reconstructed behind it.[19]

Unfortunately, the Army had little influence over Prime Minister Lloyd George after the Armistice, so they had to cope as best they could on what support they received - a return to their traditional role which corresponded with an effort at the War Office to get back to a 'peace-time' search for what had gone on during the war from a staff perspective.

In early 1919, a committee chaired by Lieutenant-General Sir Walter Braithwaite reported to the War Office its generally favourable findings on the working of the General Staff during the Great War. This Committee on Staff Organization, or Braithwaite Committee, took testimony from eighty-four commanders and staff officers from all service branches and concluded, despite the evident tiering of GHQ during the war, that, 'the key-note of our system of Staff organization is the unity of the Staff

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18. Wilson to Robertson, 17 June 1919 enclosing Wilson to Prime Minister, 16 June 1919, Wilson Papers, HHW2/1, IWM

19. W G Lindsell, 'Administrative Lessons of the Great War,' *JRUSI*, Volume LXVI, February - November 1926, 713.

although its work is divided into three main branches.' [20] By this, Braithwaite clearly meant that all branches had focused on the business of winning and worked quite well together. The Committee had, however, noted the tiering evident in 1916-18 and reported that:

> The evidence has been almost unanimous in advocating the principle of one Staff, while many witnesses have pointed out that we now have, in practice, two, if not three, Staffs which have come to be, as regards interchange and promotion, and to some extent in regard to their functions, mutually exclusive.[21]

This came from a noting of the duality of the staffs in British formations by officers such as Ivor Maxse, who wrote Braithwaite that:

> I think the Staff has succeeded *in spite* of a faulty system because its individual members have 'played the game' for their side throughout the war.[22]

He wanted the Committee to prevent faulty methods from being remembered as being efficient and thus perpetuated. He like many others, called for the idea of 'one staff' in which officers might be moved freely about, without regard to prior posting - an officer in G Branch might, for example, find his next staff posting as part of A Branch.[23] It seems likely that the Committee meant that the Staff had worked remarkably cohesively despite the tiering which manifested itself, the result of the direction of the *Field Service Regulations (1914).* Indeed, difficulties in some formations the Committee put down to, 'a departure from the spirit of the regulations' either through ignorance or confusion over the wording of the *Field Service Regulations.*' Short of the eventual re-

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20. *Braithwaite Report*, Boraston Papers, 71/13/2, IWM. This report is also available in WO 32/5153. Both copies are identical, however, the Boraston copy has the advantage of containing marginalia by Sir Douglas Haig.

21. Ibid.

22. Maxse to President, Committee on Staff Organisation, BEF, 14 February 1919, Dawnay Papers 69/21/4, IWM: emphasis in original. Unless otherwise noted, all further references to staff organisation in this chapter are drawn from this source.

23. Ibid.

publication of the *Regulations*, the Braithwaite Committee provides the best idea of what the higher elements of the British Army thought had been learned about the administration of a large field army. A number of the observations and suggestions prove quite striking because they indicate an appreciation of what had been done wrong in France.

The most important observation or suggestion to come out of the Braithwaite Committee report regarded this principle of one Staff because the tiering had been the most serious drawback of the BEF's system during the war. The report pointed to the testimony of a number of its witnesses about this and argued that this practice resulted from 'the desire, in war, to keep a man at the work he knows best.' The report also noted, in this light:

> the tendency in a superior to keep a Staff Officer at the same work is natural and may, indeed, have increased at the War Office and at GHQ in order to secure the best men and to ensure their retention in appointments for which they have shown special aptitude. It may have been encouraged on the General Staff side owing to the feeling, that, in that branch of the Staff, there is more opportunity for an outlet to command, and more interesting work generally.

The report went on to state that, while it was not unthinkable to keep Staff Officers who proved especially suited for one branch from rising in that branch, the general rule should be that, 'experience in both the operations and administrative branches should be a necessary qualification for all high command appointments on the Staff.' Staff officers should have command experience, and, likewise, command officers should be provided with experience as a staff officer. This would not only create a group of command officers with some sympathy and understanding for the work of the staff, but it would also create a pool of staff officers able to assume responsibility should their commanding officer be incommunicado, or killed.[24] To this end, the Committee suggested the abolition of all branch-specific staff titles, except for the heads of the

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24. W E Ironside, 'The Modern Staff Officer,' a lecture presented to the Royal United Services Institute on 18 January 1928 published in the *JRUSI*, Volume LXVIII, 1928, 443.

branches. This would effectively end or reduce the pigeon-holing effect created by titles such as Deputy Assistant Adjutant and Quartermaster General (DAA&QMG) - the senior administrative post in a division. To counter the blending of the titles, and the presumed reduction in authority to the head of the operations side, the Committee also suggested the senior G officer be graded one level higher than his A and Q opposite numbers, thus making him first amongst equals. This would effectively reduce friction and rivalry in peace - the authors felt this to be far less of a concern during active operations. This suggestion is a sound one, because the practice of moving officers from staff to command positions and back might also have had the effect of mitigating the old *Field Service Regulations'* split of command and administrative responsibility.

The second important suggestion made by the Committee dealt with the co-ordination of the Staff and, thus, also with the tiered nature of the staffs in France. Some witnesses, usually those with command experience, had objected to the co-ordination role being the responsibility of the senior G officer, preferring to do it themselves. Others recommended the adoption of an American or French style of Chief of the Staff. Others, no doubt, approved of the way the regulations laid things out. The Committee decided that not all officers fully understood the nature of the co-ordination of the Staff's duties. They had:

> received strong evidence which shows that cases are not uncommon in which Commanders, who are inexperienced in Staff work, think that, by seeing the heads of the different branches periodically, that they are co-ordinating staff work, whilst in practice they are doing nothing of the kind. The result is often that the troops receive conflicting instructions and suffer in consequence.[25]

However, some later observers with experience in France or in the Army prior to the war drew the lesson that if the chief of the General Staff had too much power, he tended to become bound up in administrative duties, and this detracted from his command duties. The observers felt that this explained Ludendorff's difficulties in

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25. H S G Miles, 'Army Administration,' *JRUSI*, Volume LXVIII, February - November 1923, 33.

1918, as they perceived him to have become too bound up in administrative matters to keep a firm grip on operations.[26] The Committee felt that the role of co-ordination, if assumed by a Commander, imposed too great a strain on him during prolonged operations. The French model they felt to deny access to the Commander by the administrative heads - anathema in the British Army. As a result, the Committee advised that they felt the existing arrangements, where the head of the operations branch in each headquarters co-ordinated the work of the Staff, to be sound.

On other points of importance, the Committee felt that in order to avoid the 'evils of the present triple patronage on the Staff,' a strong Military Secretary branch had to be created. The Military Secretary could then review the recommendations of the various heads of branches, and of the commanders, and make the necessary decisions - thus reducing patronage. The Committee also reinforced the importance of the DGT's being placed under the QMG, stating, 'We consider it essential that the branch of the Staff responsible for the provision of stores and supplies should also be responsible for their transportation.' The final suggestion of importance dealt with the Staff College and read, 'The Staff Colleges should, in future, be kept open during war.' The best indication of the receptiveness of the War Office to this series of sound suggestions is the inter-war *Field Service Regulations.*

The *Field Service Regulations, Part II*, originally issued in 1909 and revised in 1914, formed the basis of the organization and administration of the BEF. The demands of the Somme Offensive in 1916 had, as has been shown, required changes to the regulations, and these had been issued in 1917 as 'An Addendum for the Guidance of Troops Operating in France and Belgium' and wrote out the post of IGC, replacing it with a DGT and GOC, L of C Area. It was not until 1923, however, that new regulations were issued. *Field Service Regulations, Volume I, Organization and Administration, 1923, Provisional* reflected the lessons of the war, and served until

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26. Ibid.

1930 when a new set were issued.[27] Clearly, these new regulations should have reflected the administrative lessons of the Great War, some of which came to light in the Braithwaite hearings. Furthermore, the 1930 issue gives an idea of where the professional opinion of the British Army had gone, since the question of administration had received considerable attention in professional circles, particularly through the auspices of the Royal United Services Institute.

The first key to be noted is the renaming of the volumes. The issue of the regulations prior to the war appeared to put questions of administration almost as an afterthought. Part I, which had dealt with operations, was far more extensive. By renaming the organization and administration volume as volume one, the authorities clearly illustrated the first lesson to be drawn from the war. That is that a carefully considered, well managed administrative infrastructure is the first step in creating a successful field army and battle 'doctrine' for that army (even though they did not use the term doctrine until very recently). Indeed, the War Office appears to have learned the important basic lesson that, 'war is administration, because armies have swollen to a very *big size*.'[28]

In terms of principles of warfare, there were subtle differences between the various sets of regulations. By 1930, the *Field Service Regulations (1930)* had moved the 'principles of war' out of the administrative volume and into Part II, and stated that the goal of the organization of an army was to:

> place in the hands of the C-in-C a machine so co-ordinated down to the smallest units and so controlled by its various subordinate commanders and their staffs, as to make it possible for the C-in-C readily and

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27. Hereafter, *Field Service Regulations, Part II, Organization and Administration, 1909* (reprinted and amended in 1914) will be referred to as *Field Service Regulations (II, 1914)*, the 1917 addendum for France and Belgium as *Field Service Regulations (Addendum, 1917)*, *Field Service Regulations, Volume I, Organization and Administration, 1923, Provisional* will be referred to as *Field Service Regulations (I, 1923)*, and *Field Service Regulations, Volume I, Organization and Administration, 1930* as *Field Service Regulations (I, 1930)*.

28. Ironside, 'The Modern Staff Officer,' 440.

> constantly to apply the principles of war (Sec. 8, Vol.II, 1929), in accordance with the ever changing demands of a campaign.'[29]

In other words, the goal was to create an administrative and organisational system in which the C-in-C could concentrate on operations, secure in the knowledge that he had an efficient system backing him up. In order to do this, the organisational goal was to 'ensure elasticity, unity of effort, decentralization of control, and economy [of effort].'[30] In essence, this differed little from earlier versions, but was much more concisely laid out - clearly on the advice of the Braithwaite Committee.[31]

The lay-out of the sections on the nature, functions and responsibilities of command became more clear in 1930. This was largely because of the abolition of the post of IGC in 1917, since there was no need to go through the convoluted process of describing his functions and responsibilities.[32] When it came to 'the Staff,' however, there were some significant changes. In the main, the changes revolved about the creation of a fourth staff branch. In addition to the General, Quartermaster-General and Adjutant-General Branches, there was the branch of the Master General of the Ordnance.[33] While this additional branch complicated things, by making the MGO's Branch a true version of the staff, the difficulties which came out of the IGC did not exist. The second difference, and one which seems initially minor, but was in fact a great concession to the resentment it had built during the war, was that staff officers

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29. *Field Service Regulations (I, 1930)*, 3.

30. Ibid., 3.

31. *Field Service Regulations (II, 1914)*, 23-27; *Field Service Regulations (I, 1923)*, 4-9; *Field Service Regulations (I, 1930)*, 2-6.

32. *Field Service Regulations (II, 1914)*, 32-34 for the IGC, 28-30 for Commanders; *Field Service Regulations (I, 1923)*, 11-14; *Field Service Regulations (I, 1930)*, 8-11.

33. *Field Service Regulations (I, 1930)*, 20-22 and *Field Service Regulations (I, 1923)*, 22-24 for the staff principles. *Field Service Regulations (II, 1914)*, 37-8 for the pre-war description, which excluded line of communication officers under the IGC from the Staff.

were no longer singled out in the regulations as wearing distinctive marks on their uniform - the 'red tabs' of infamy during the war.[34] This might have cleared up a great deal of resentment, and it appears that the Commission had listened to the dissatisfaction of the troops in the war. The Braithwaite Commission had, in fact, suggested that true staff officers should retain distinctive marks, but that aides-de-camp, and others who were not staff officers in the G-A-Q scheme of determination, should not wear them.

As far as the maintenance of the army went, the *Field Service Regulations(1930)* did reflect the major lessons of the war. First, they mandated that the Transportation service be subordinate to the QMG; and secondly, that the maintenance of the army in the field was to be carried out by the Directors of Administrative Services, of whom by far the most fell under the QMG. The CGS controlled the Survey service; the AG controlled the Chaplains, Graves, Medical, Pay and Provost services; the MGO controlled Ordnance; and the QMG controlled Labour, Hirings, Post, Printing and Stationery, Remounts, Supplies and Transport, Canteens, Transportation, Veterinaries, Works and Engineering Stores.[35] This represented significant changes from 1914 because there was no 'fuzzy' area where one Director reported to more than one superior.[36] In each case, the lessons of the war could be seen, and in general, they stemmed from the dramatic transportation rationalisation which followed the Somme Offensive. For example, the Directorates of Supplies, and Transport had been merged to form the Directorate of Supplies and Transport, while the

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34. *Field Service Regulations (I, 1930)* and *Field Service Regulations (I, 1923)* give no mention of distinctive marks; *Field Service Regulations (II, 1914)*, 37 does.

35. *Field Service Regulations (I, 1930)*, 98-99.

36. *Field Service Regulations (II, 1914)*, 45-6 for the various services at that time.

various transportation related directorates had been effectively merged under Transportation and the Director-General.

The new *Regulations*, however, made no reference as to the means by which the rank of an officer related to his post. The idea that the process of giving high rank to staff officers had inherent flaws received some public attention in 1923. During the war, the British Army had followed the practice of granting temporary rank to officers, in order to give them what had been perceived as the appropriate rank for their position. For example, Corps Commanders had to be Lieutenant-Generals, while MGGS's had to be at least Major-Generals, so they received that temporary ranks when they were selected to fill the position - this differed substantially from the French and German armies of the time. At a lecture given at the Royal United Services Institute, Lieutenant-General Sir H S G Miles argued that the axiom 'Who drives fat oxen must himself be fat' had crept into the British Army's psyche, and that the idea should be that an 'aide-de-camp, a lieutenant, can give an order to a [commander's] subordinate just as well as if he were a general.' [37] In other words, as long as a formation commander had approved the order, the rank of the functionary delivering it did not matter. In addition, rapid promotion did not help the Army:

> Promotion can only be considered properly in reference to employment, and rank should be given in due proportion to employment. An officer with rapid promotion loses the experience of the lower grades, and as the appointments for his rank are few, his sphere of usefulness is often curtailed; this frequently results in his loss to the Army, which is the reverse of economical, and is neither to his advantage nor to that of the State.[38]

The British Army clearly learned the importance of administration in France, to the point that advocates appeared who called for all officers to have some form of administrative training and spend time serving on administrative staffs. As General Miles stated:

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37. Miles, 'Army Administration,' 34, 35.

38. Ibid., 34.

> Administration comes into every walk of life, whether you administer an army or whether you administer a golf club. Staff Officers should be trained in the junior branches of the Administrative Staff, so that officers, when appointed to fill high positions in which administration always bears an important part, may possess an adequate knowledge of it.[39]

Viscount Haldane made two important observations at the Royal United Services Institute paper given by General Miles. In the first, he stated:

> I have always thought that the real period of maximum activity of mind for a General Staff was in time of peace. It is in time of peace that all sorts of unlimited problems present themselves. That does not mean that you are to be encouraging ideas of war. It does mean that you are to be reflecting how many and how great are the unexpected possibilities which war may bring forth, and be applying your minds to the provision that must be made for them if they do arise. The last thing that is desirable is to be caught unready, and the highest form of unreadiness is unthinkingness.[40]

The pre-war functioning of the Directorate of Military Operations showed that the British Army had begun this process by 1905-06. Haldane's second observation dealt with the correspondence between branches of the Staff. He called for better and more constant consultation so that the administrative staffs had an idea of what they might be asked to do. Haldane noted:

> The General Staff proposes, the Administrative Staff disposes; but the disposals will be less noxious if the Administrative Staff and the General Staff have alike realised from the beginning what is wanted and what are the resources that have to be provided.[41]

To this point, Major-General T M Corker later re-stated the argument. He wanted the General Staff to inform Administrative Staffs of all ideas currently being considered, so that they might be in better position to cope with the problems raised.[42] The recognition that maintenance problems had to be worked out ahead of time, since they

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39. Ibid., 35.

40. Viscount Haldane's remarks in discussion following presentation of Miles, 'Army Administration,' 36.

41. Ibid., 36.

42. Major-General T M Corker's remarks in discussion following presentation of Miles, 'Army Administration,' 42.

might not be improvised in the future, provided a spur for the reconsideration of the *Field Service Regulations* and, indeed, the way in which future British armies would operate.[43]

The BEF, and British Army as a whole, learned a great deal from the administrative challenges of 1919 and the time that they had to mull over their performance in the war. In the main, they learned in 1919 that the administration and demobilisation of a multi-million man army was far more easily accomplished during wartime conditions when control of the railways could be assured. The occupation of the Rhineland proved a tremendous strain on the resources available. Indeed, had more been required, it is unlikely that the administration could have delivered. This inability, however, resulted from the demands on the system made by the return to civil concerns and the administration of the BEF and BAOR cannot be greatly faulted. A resumption of hostilities would have been difficult, but it would also have implied a return of the railways to the control of the French Commission Regulatrice and to the administration of the British armies in Europe. No doubt, they could rapidly have recovered much of the efficiency demonstrated in 1917 and 1918. The winter and spring of 1919 also gave the British some time to learn lessons of the war. The Braithwaite Committee's report contained a number of eminently sensible suggestions for the War Office to consider in its revision of the *Field Service Regulations* of 1912. While not all of these made their way into the 1923 provisional and later 1930 regulations, some of the most important administrative lessons did. In particular, the QMG rightly retained control of the transportation. The inherent simplicity of the pre-war regulations survived, and the administration gained importance. The War Office, after 1923, could likely have controlled effective campaigns of any size anywhere in the British Empire. While the British Army, as a whole, has only recently embraced what can be termed a doctrine of battle, this is not the case for administration. Between the wars, the British Army,

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43. Lindsell, 'Administrative Lessons of the Great War,' 717.

learning from its experiences in the trenches, managed to embrace and define a coherent doctrine of administration.

Figure 8:1
Total Demobilised from BEF by Month

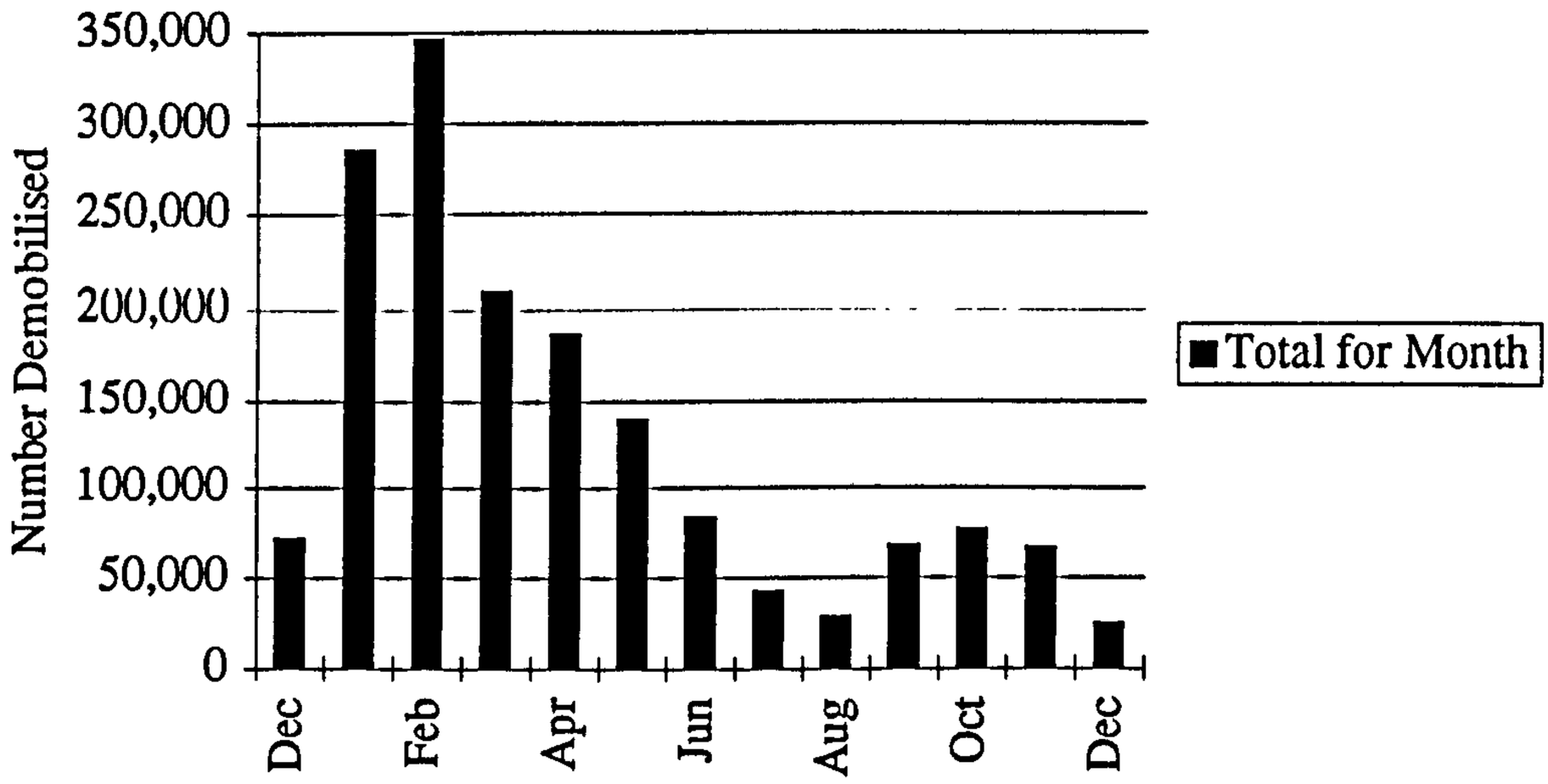
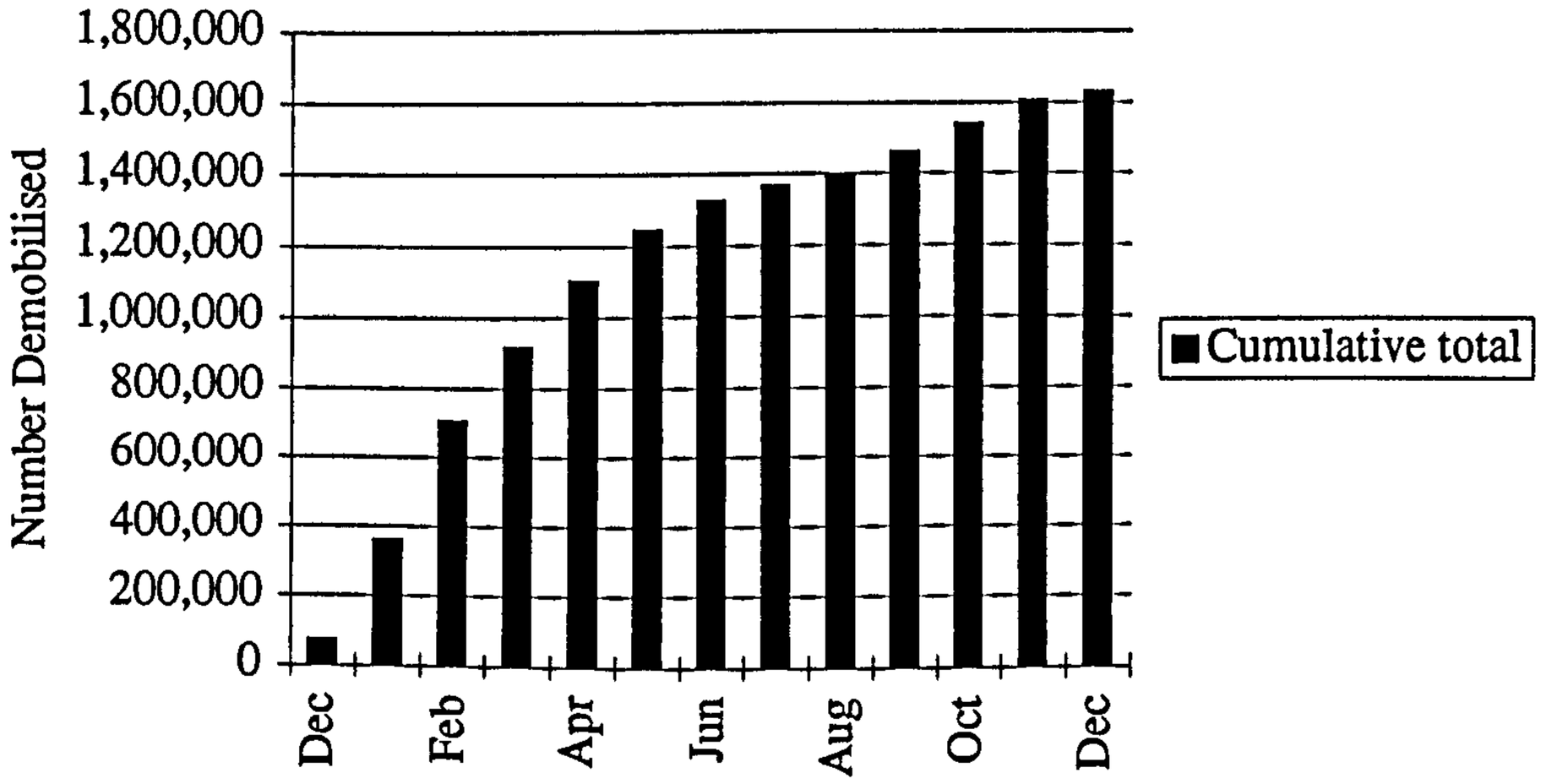
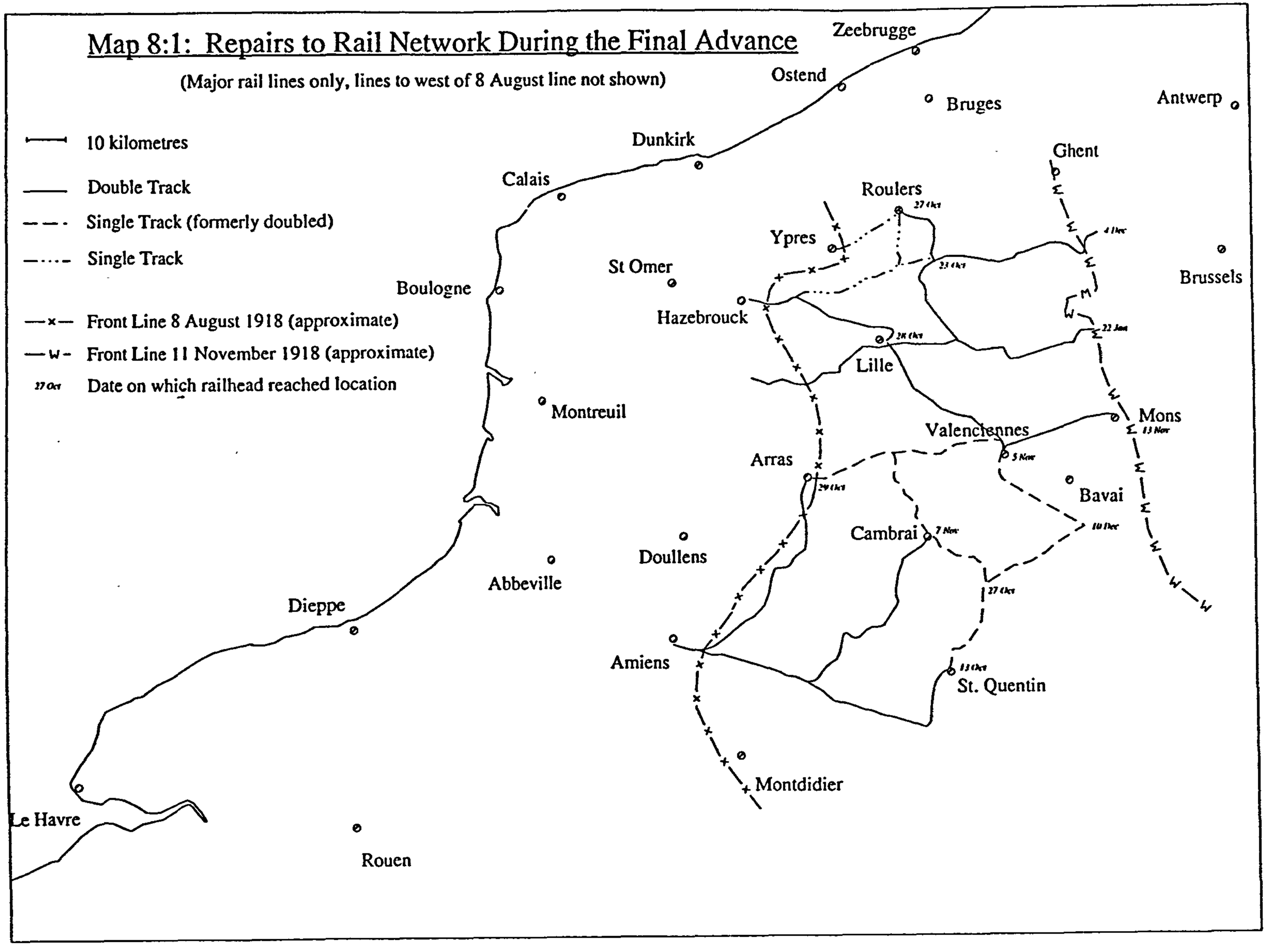


Figure 8:2
Cumulative Number Demobilised from BEF

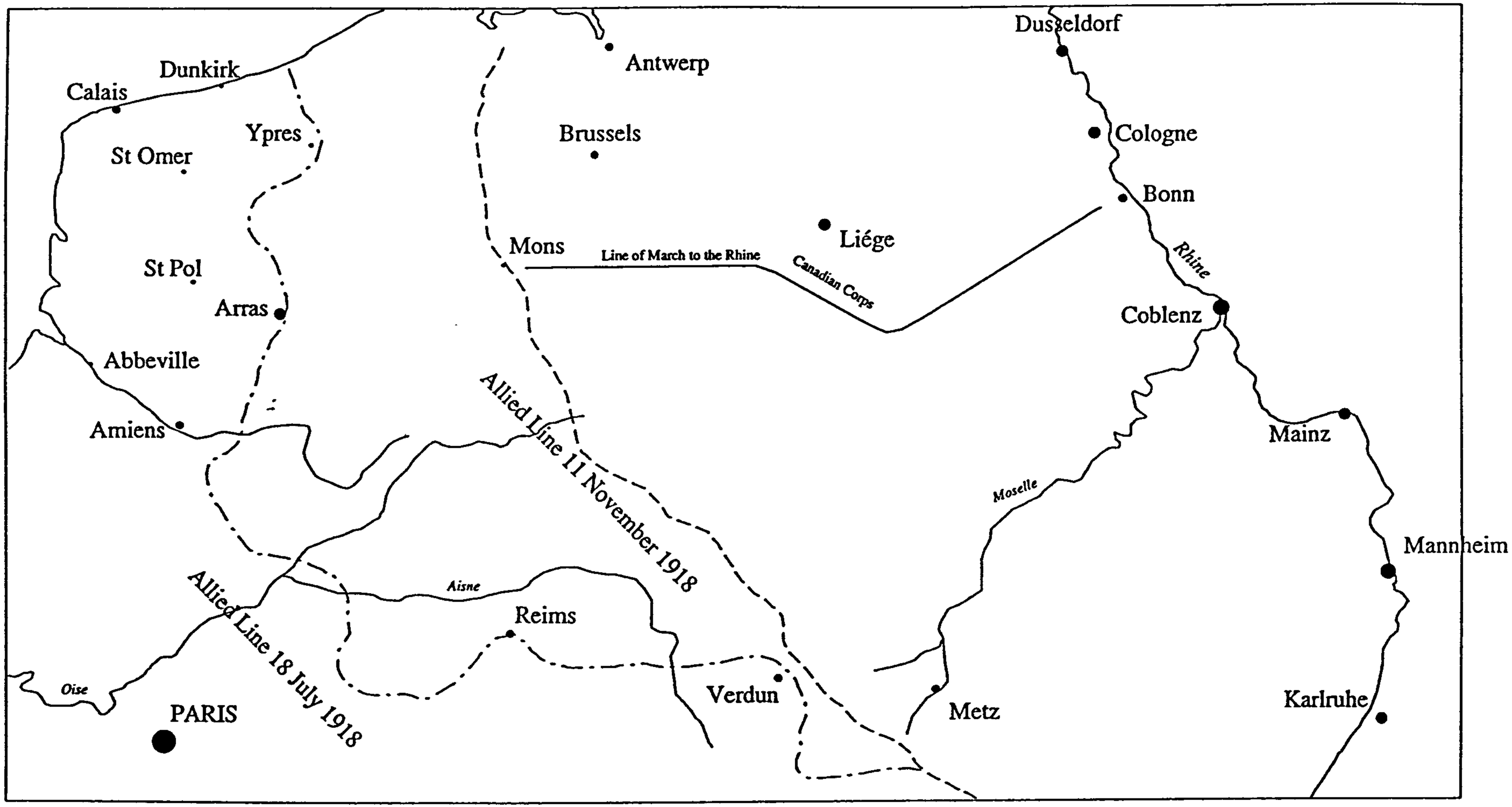


Map 8:1: Repairs to Rail Network During the Final Advance

(Major rail lines only, lines to west of 8 August line not shown)



Map 8:2: The March to the Rhine, November - December 1918



Conclusion

The BEF of 1918 differed substantially from that which had been sent to aid France in 1914. Not only was it phenomenally larger and far more proficient in the operational methodology required to fight the war, but its administrative underpinnings had evolved such that they provided superb support for these advances. After the war, the conclusions drawn by General Braithwaite's Committee on Staff Organisation in 1919 came quite close to the truth. While some might question the Committee's over-all conclusion that the Staff had functioned well during the war, given both its two-tier nature and examples of true incompetence such as the apparent lack of appreciation of the Passchendaele mud, Braithwaite had hit the nail on the head. The Staff's second tier had, in fact, worked remarkably well. This administrative success rested in large measure on the basic pragmatism and professionalism of the pre-war British officer corps and their willingness to make changes to deal with problems as they arose. Ultimately, however, it was the willingness of these officers to turn to civilian professionals as both an adjunct to military men and, in the case of Sir Eric Geddes, as the means by which the entire transportation system was restructured.

The successful administration of the BEF during the Great War hinged on the rise of the professional administrative officer. This officer was largely a product of the General Staff, created by the Esher and Haldane reforms of 1905-6, and reinforced by the growing importance of the Staff College. While there can be no doubt that the Staff College had a tremendous impact on the initial mobilisation of the BEF, and upon its commanders and operations staff, its alumni represented far too small a pool to have a substantial impact on the BEF's administration once that force began to increase in size at the explosive rate that occurred in 1915. Staff College graduates tended to end up in operations staffs or command positions because of the College's role as more of a war school than a staff school. This isolated Staff College graduates from the demands of administration. Rather than the Staff College, it became simple professionalism and

pragmatism that influenced the administration of the BEF. The latter is a British trait, more of a tradition really, given their tendency to 'muddle through' and the pre-war belief in the practical soldier.[1] The former, however, came directly out of Haldane's Order because, by creating a General Staff, Haldane laid the ground-work for the emergence of the professional staff officer in the British Army.

William Robertson represents, perhaps, the best known and most illustrious example of this new breed of British officer because of his personal background. Robertson, although a Staff College graduate, was a thoroughly professional and pragmatic soldier, combining much of the best of all pre-war influences. He had benefitted from his time at the Staff College, and the Staff College later benefitted from his return as Commandant. Further, largely as a result of his socio-economic background, Robertson had become an immensely practical soldier and a superb administrator. As a result, he had a significant impact on the BEF as its QMG during GHQ's formative stages. Robertson laid the groundwork that allowed the burgeoning BEF of 1915 to absorb non-professional soldiers into the ranks of administration, because he demanded results and had little concern over the upbringing of the men who ran the line of communications as long as they did their work well. Finally, his time at the War Office meant that Robertson exerted an influence on the BEF before it ever went to France.

Despite his abilities, Robertson faced a formidable task when he arrived in France as the BEF's QMG because Britain, believing that the war would be short, had not mobilised its economy and the *Field Service Regulations, Part II (1912)* did not offer a coherent organisation for the line of communications. By the end of 1914 this had begun to cause problems for the BEF because the new weapons systems, particularly quick-firing artillery, consumed ammunition and other supplies at a ferocious rate. Further, the administrative system laid out in the *Field Service*

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1. Holden Reid, 'War Studies at the Staff College,' 2.

Regulations, Part II had been found wanting because it created an IGC who had no clear place on Sir John French's General Staff. Pragmatism and co-operation between the AG, QMG, and IGC however, saw the BEF through their initial difficulties. Indeed, the force of personality and the professionalism of these officers laid the groundwork for the next two years, when the highly trained body of professional soldiers that had left Britain so efficiently in August ceased to exist and the BEF's administration had to cope with the tremendous expansion which transformed the BEF into a twentieth century mass army.

The BEF's administration met the new challenge of their force's rapid expansion by relying on pragmatism and professionalism - creating solutions for supply problems based on ad hocism. This approach worked largely because per diem ammunition restrictions assured a relatively light demand on supply lines during 1915. This gave the BEF solutions based on temporary expedients which had not necessarily considered the eventual problems that would be caused by lifting per diem restrictions and continued growth. Additionally, they worked because the flexibility of the *Field Service Regulations* allowed such developments but led to the creation of an obvious administrative-operational split in staff responsibilities and knowledge. Finally, the BEF lacked the capability to sustain large offensives during 1915, so they missed the lessons of Neuve Chapelle - that artillery was the key to advancing, but until per diem restrictions disappeared, such lessons could not be applied.

In 1915, the BEF also struck on its most successful innovation in administration when it began tapping civilian expertise and using men in France at essentially the same jobs that they had done in Britain. British business, used to trading globally, provided a large pool of experienced and skilled administrators who now began to show up on the lines of communication in France as temporary officers. Although the British Army never had a policy of doing so, the decision to recruit civilians for positions on the BEF's line of communications had much the same effect as seconding large numbers of officers to Harrod's, the Army and Navy Stores, and

the larger railways for training before the war would have had.

While ad hoc solutions worked well during 1915, their shortcomings threatened the British transportation system during the Somme Offensive because they could not cope with the huge increase in load brought about by the lifting of per diem restrictions and that battle's heavy casualties. The Somme's operational and tactical significance came from the first British efforts at using a true creeping barrage - a tactical method that demanded a great deal of the line of communications. With the increased use of artillery, the demands placed upon the lines of communication by ammunition, road-stone and ambulance trains over-stretched the transportation capacity of the rear areas. As the rail system began to slow down, the roads in front areas worsened, which led to slower deliveries and greater demands and began a vicious cycle that threatened to cripple the whole system.

The disaster that might have resulted from a transportation failure could only be avoided by a complete restructuring of the system. The BEF resorted to a civilian and asked Sir Eric Geddes to sort out their problems. His changes led to better prediction of needs, more efficient ports, and an over-all improvement in the use of the various means of transportation at the BEF's disposal. As a result, by April of 1917, the BEF had a transportation and administrative system tried in battle and well suited to the needs of trench warfare. This assured that the BEF would remain well-supplied until the Armistice.

As a result of these changes, the BEF's innovators could fully advance new operational and tactical methodologies that did not suffer from supply restrictions. In the first of four offensives, Arras, the BEF's stocks of ammunition could be regarded as more than sufficient. As a result, the Canadian Corps' assault on the Vimy Ridge saw the use of an exceptionally careful bombardment which emphasised counter-battery work and well designed and executed creeping barrages followed without a gap by the infantry. Flash spotting and sound ranging techniques combined with better supply to take the science of counter-battery work to a high level of effectiveness, and by the end

of the year, the BEF's operational system had changed dramatically. As a result, an increasing number of formations had begun to utilise the deliberate set-piece assault which required administrative excellence to succeed. This administrative excellence made the Battle of Cambrai an administrative anti-climax. By mid-1917, Haig's administrative services could supply whatever his forces needed, particularly ammunition for his artillery - the most important element of a Great War battle.

Geddes's legacy and the operational freedom it provided can best be seen in the artillery used by the BEF both before and after his arrival.[2] As can be seen in Figure C:1, after the rail crisis of early 1917 had been solved, the BEF's ammunition expenditure consistently exceeded the Somme's levels - one sign that transportation had been greatly improved. Figure C:2 represents the load placed on the line of communications by artillery during the whole of the war.[3] The relative load, adjusted to take account of the BEF's growth, highlights three things. First, the demand on rear areas during 1914 equalled that of the Somme preparation before the ammunition shortage of 1915 greatly reduced the load. Secondly, the transportation crisis on late 1916 and early 1917 is plainly obvious. Finally, after Geddes's reforms, the load on the line of communications from artillery dipped below Somme levels on only one occasion - the winter of 1917 to 1918 yet the BEF had no difficulty maintaining supplies.[4] Geddes clearly left the BEF capable of pursuing whatever line of operational

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2. *Artillery usage is a good category* of supply to use for a number of reasons. First, the data is readily available in *Statistics and in various War Diaries.* Secondly, artillery formed a major component of the BEF's supply needs by 1916. By 1918, it had almost caught forage as the single largest category of supply - had the war continued, it would have passed it in December 1918. Finally, and most obviously, artillery use increased during offensives, which placed greater strain on the line of communications.

3. Figures C:1 and C:2 are drawn from Birch to Dawnay, 21 November 1918, G P Dawnay Papers 69/21/4, IWM. In Figure C:2, the second quarter of 1916 has been used as the baseline for both ammunition use and size.

4. While the level did drop below Somme levels in the last quarter of 1918, it must be noted that the fighting ended before the halfway point of that quarter. Had it continued, there is no reason to suppose that it would have been less.

and tactical development it chose, and provided Haig with the means to affect theatre strategy.

In the spring of 1918 the BEF's administration faced a new challenge which caused several adjustments that more fully refined Geddes's system and adapted it to mobile warfare. The German Spring Offensives threatened to cripple the BEF because they threatened its line of communications, but their lack of strategic direction ultimately doomed them to failure. Nonetheless, they induced Haig to make two important changes, one political and one administrative. First, he agreed to the appointment of Ferdinand Foch as Supreme Commander (Generalissimo) which allowed for more effective strategic direction of the allied efforts. Secondly, he finally brought the DGT under the control of the QMG and ended the threat that the DGT might be turned into a revised form of IGC. The second step, taken before the summer counter-offensives, left Haig with a system prepared to manage offensive, semi-mobile warfare. The counter-offensives of the summer and autumn, vindicated such changes and assured the BEF's success. The BEF's superb administrative infrastructure allowed Haig to mount limited objective attacks of tremendous power almost at will, and to switch their locations at very short notice. During August, September and early October the BEF made a series of major efforts that, by the end of that period, had carried them through the vaunted Hindenburg System and left the greatest hindrance to the continued advance the speed with which railheads could be pushed forward. Haig had to settle for a dogged pursuit, and his administrators and their subordinates made tremendous efforts to maintain the advance, but by November the administrative system needed a few months' break in operations before *further major offensives* could be contemplated.

The Armistice both helped eliminate this problem and created new, more intractable ones. By 11 November 1918, the BEF's administration had become so stretched that they could not fully support the advance of Second Army to the Rhine, but with practically no warning, from railheads still well behind the line of advance, they did manage to supply Second Army on its march to the Rhine. The BEF now had

to face the difficulty of not being at peace, but not in a state of war either. Until the German representatives at Versailles signed the Peace Treaty there on 28 June 1919, some offensive capacity had to be retained, but the BEF and BAOR could not do so because of the public perception that the war had ended on 11 November and the return of rail lines to civilian control.

The new *Field Service Regulations*, particularly the 1923 and 1930 editions, encapsulated the most important lessons learned during the war and fully recognised the centrality of good administration to successful operations. Rather than a brief aside, administration became central to the new regulations. The British Army reversed the order of the manuals, placing administration first; it also maintained the inherent simplicity of the pre-war regulations; and the QMG retained the control of transportation as had evolved in France. The War Office, in 1923, once again had a sound blueprint for operations anywhere in the world.

Administration exerted a profound, though at times subtle, impact on British operations and strategy in France during the Great War. During 1914 through 1916 it had a restraining effect on the BEF. In 1915, for example, the complete inadequacy of ammunition supplies crippled any British ability to do other than defend. Though the BEF attempted offensive action, only Neuve Chapelle had anything close to the kind of artillery support such actions required. While the ammunition inadequacy cannot be blamed on the BEF's administration because they had no control over the factories that could not supply enough shells, it is administration none the less because more foresight might have mitigated the worst effects of the crisis. As a result, administration had an early impact on operations and strategy. During the Somme, ammunition largely ceased to be a problem, but the BEF's administration found itself unable to cope with the demands of that offensive. As a result, the transportation system all but collapsed. While this ultimately had little to do with the end of the offensive, administrative constraint meant that Haig could not have changed locations for the offensive after about April, at least not without serious delay.

Geddes's reforms of the winter of 1916 and spring of 1917 released the constraint on both operations and strategy. From 1917 onwards, and particularly in 1918, the very excellence of the BEF's administration meant that Haig and his subordinates found themselves largely free to innovate and to make offensive plans much more rapidly. Though Haig still could not change his point of attack at will, what commander ever can? No offensive that requires an attacker to carry a defensive system can be undertaken without preparatory time - whether it is a trench to trench assault, a Soviet 'deep battle' or an offensive like the recent 'Desert Storm,' itself, in essence, a form of deep battle. As a result, the impact of administration in 1918 may be called subtly profound - it is not obvious, but it allowed the BEF to launch a series of material-heavy offensives in 1918 that, along with the rest of the Allied effort, illustrated to the German High Command that the Allies had become capable of winning the war on the battlefield.

The BEF had not been prepared, in 1914, for the difficulties of modern warfare. By 1918, however, and in spite of the tiering at GHQ, the continual siphoning of administrative talent into combat units, and numerous other problems, Haig had at his fingertips, a truly superb fighting and administrative organisation.

Indeed, in his final Despatch, he recognised this:

> Wars may be won or lost by the standard of health and moral of the opposing forces. Moral[e] depends to a very large extent upon the feeding and general well being of the troops. Badly supplied troops will invariably be low in moral[e] and an Army ravaged by disease ceases to be a fighting force. The feeding and health of the fighting forces are dependent upon the rearward services, and so it may be argued that, with the rearward services rests victory or defeat. In our case we can justly say that our supply system has been developed into one of the most perfect in the world.[5]

This system had come about largely because of the pragmatic nature of the professional British officer. Clayton had begun the process of tapping Britain's administrative pool of talent; Haig had, with the full agreement of Lloyd George, taken this to its peak in

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5. Boraston, *Despatches*, 340, Despatch of 21 March 1919.

1916 with the appointment of Sir Eric Geddes as DGT. The evolution that occurred in British administrative services throughout the war exhibits a series of essentially pragmatic solutions to problems as they presented themselves - this came about, not due to the Staff College or any special training, but because of the emergence of professionalism in the British officer corps during the period from 1906 through the end of the war. Petty bickering and *considerable retrenchment would characterise post-*war thinking and again plague the officer corps, but, under the test of war they had risen to the occasion once; they might be expected to do so in the future.

Figure C:1
Total Artillery Expenditure, 1914-1918

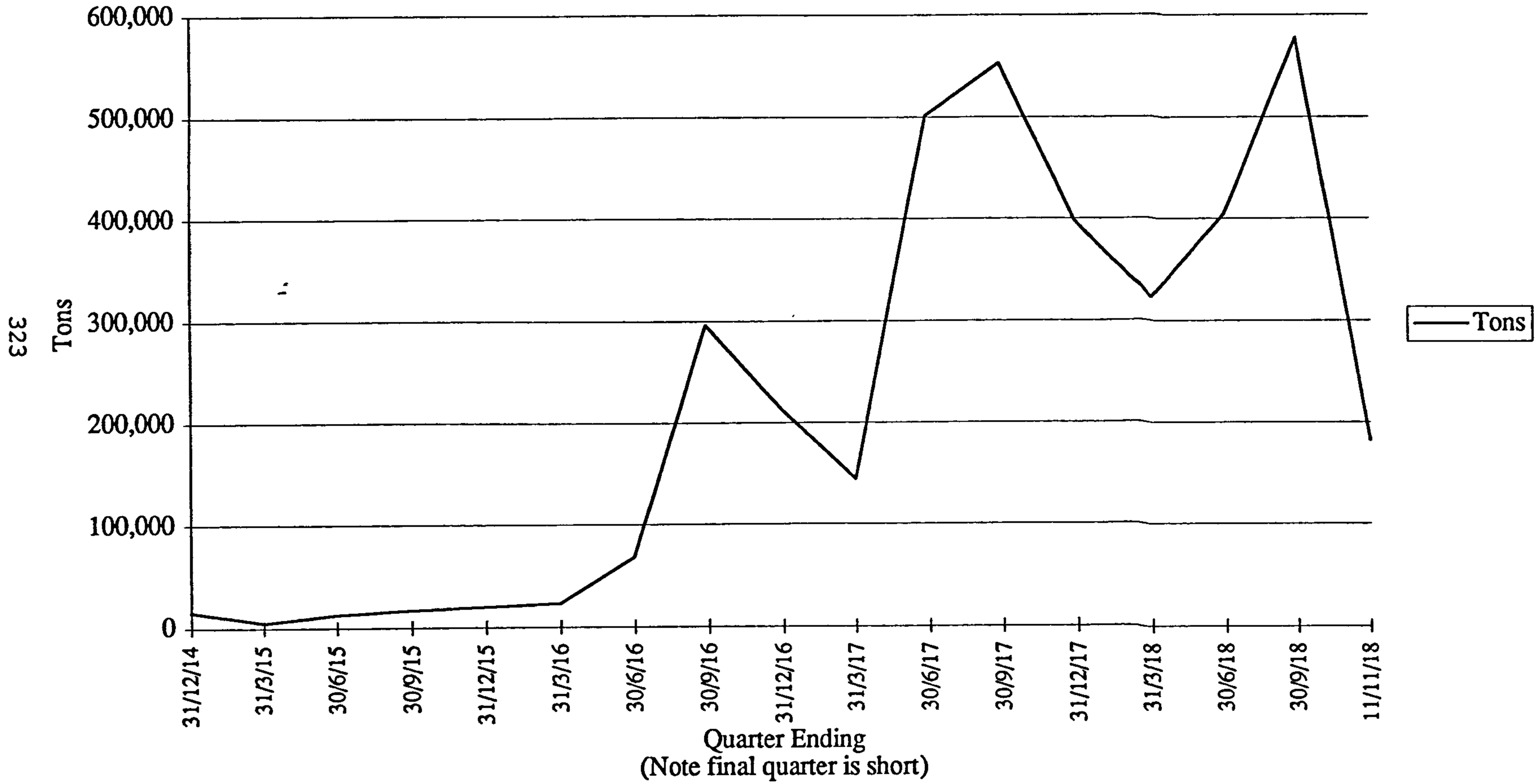
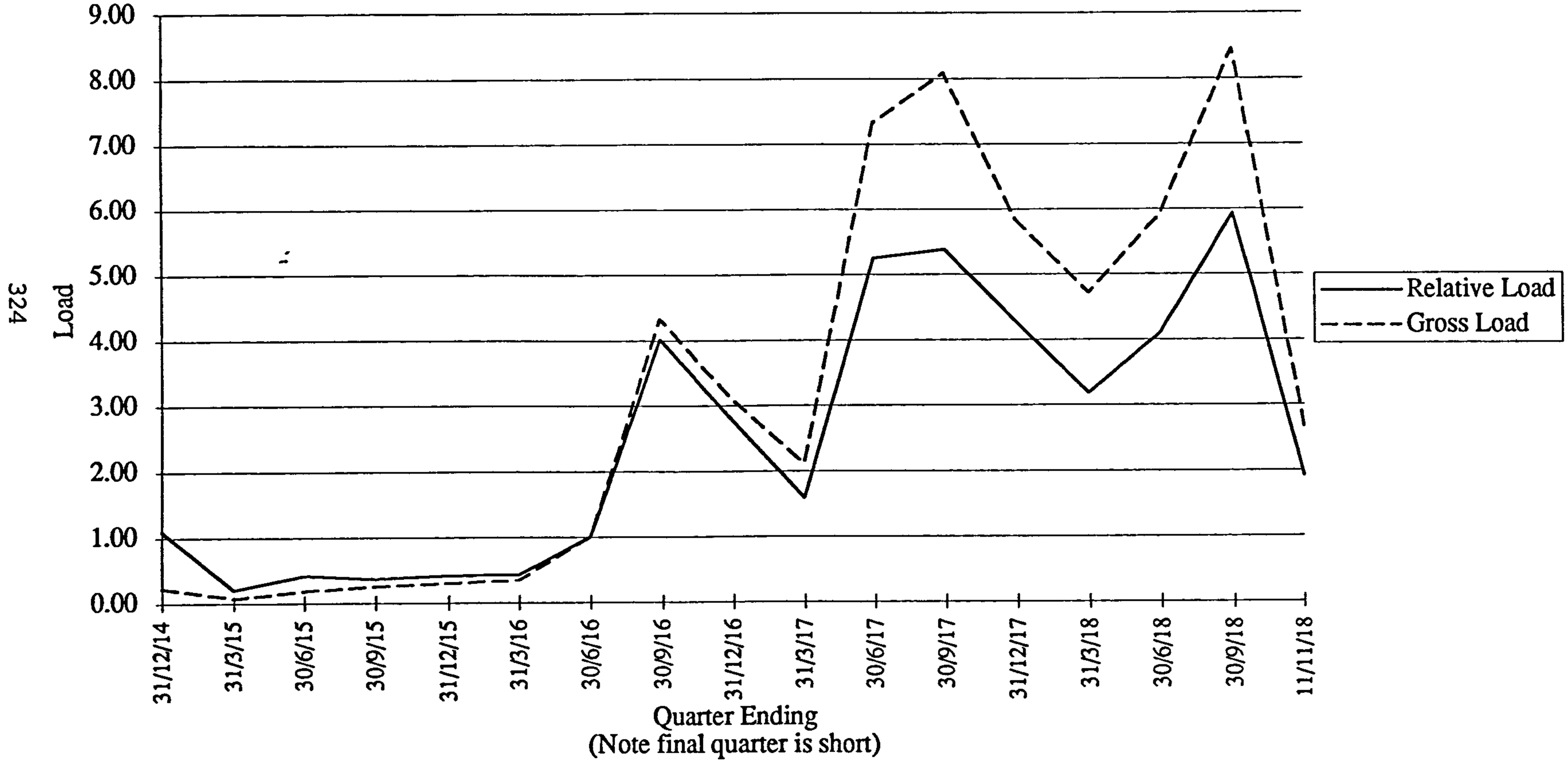


Figure C:2
Gross and Relative Load on Line of Communications
from Artillery Resupply, 1914-1918



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16 to 39	Draught chapters with marginalia by Haig, Charteris and Haking in particular
Cab 45/114 - 182	Official History Correspondence
Cab 45/184 - 199	Army and Miscellaneous Correspondence
Cab 45/201	Diary of G S Clive
Cab 45/206	Diary of Sir Horace Smith-Dorrien
Rail 633	*South Eastern & Chatham* Railway
SUPP 12/1	Ministry of Munitions (Geddes), Correspondence, 1915-1916
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/364	Records of a Strategic Wargame, 1905
/5091	Man-power, 1917; includes Report of Lieutenant-General Sir H M Lawson on Man-power
/5093	Lieutenant-General Sir H M Lawson's Report on the Economy of Man-Power in France; marginalia by Haig
/5139	Extension of Canadian Control over Canadian Forces in the Field
/5153	Report of the Committee on Staff Organisation (Braithwaithe Report)
/5169	Report on Gas Attack at Ypres, 1915; respirators
/5599	Interchange of British and French Divisions, May 1918
/5600	Situation on British Front, July 1918
/5764	Incorporation of American Units in British Army
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/486, 573, 606, 660	Expeditionary Force Tables, 1909, 1911, 1912, 1914
/561	Expeditionary Force, War Establishments (Provisional), 1911
/611	Mobilisation Appointments, Part I, Expeditionary Force, 1914
/665	Expeditionary Force, Railway Tables (1914)
/761, 932	Report on Account of Army Expenditure, 1914-17 and 1917-22
WO 79/62-63	A J Murray Papers
WO 79/73-83	Major-General Sir Stanley von Donop Papers (Master-General of the Ordnance)

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/1-20	General Staff Branch
/25-26	Adjutant General's Branch
/27-41	Quartermaster General's Branch
/42	AQMG (Personal Services)
/43	DAG, GHQ 3rd Echelon; DAAG, GHQ 3rd Echelon, Indian and Canadian Sections
/53	Paymaster-in-Chief
/56	Director of Inland Water Transport; Chief Railway Construction Engineer; Director of Engineering Stores
/57	Director of Army Signals
/58-60	Director of Ordnance Services
/63	Director of Works
/64	Director of Railway Transport, R.E.; Director of Forestry
/71	Deputy-Assistant Director of Transport
/74-77	Director of Supplies
/78-79	Deputy-Assistant Director of Supplies
/3949-71	Inspector-General of Communications
/3972	IGC, A and Q Branch
/3973	IGC, Q Branch
/3976	IGC, Q Branch; Director of Railways
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Lieutenant-General Sir Launcelot Kiggell
Major-General Sir Frederick Maurice
Field Marshal Sir Archibald Montgomery-Massingberd
Lieutenant-General Sir A Murray
Field Marshal Sir William Robertson
General Sir Horace Smith-Dorrien

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69/21/1-6	Major-General Sir G P Dawnay
PP/MCR/C32	Field Marshal Sir John French
88/65/1	F Gower
73/60/1-2	General Lord Horne
85/39/1	Colonel W Leith-Ross
69/53/various	General Sir F I Maxse
91/23/1	Captain C C May
80/35/1	D J Polley
73/22/1	Major-General Sir J A Strick
92/41/1	Brigadier-General L C G Tufnell
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